

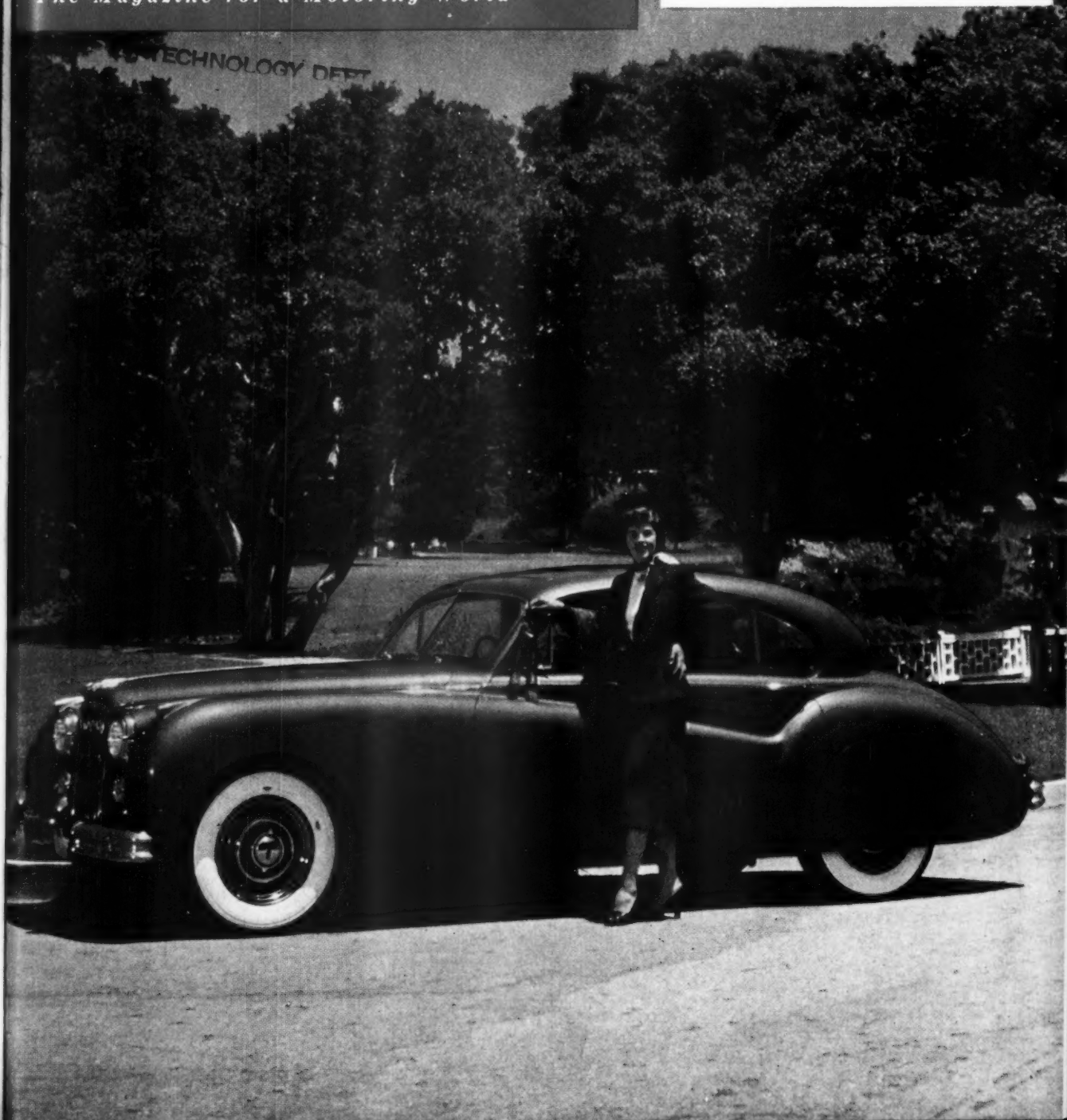
MOTOR TREND

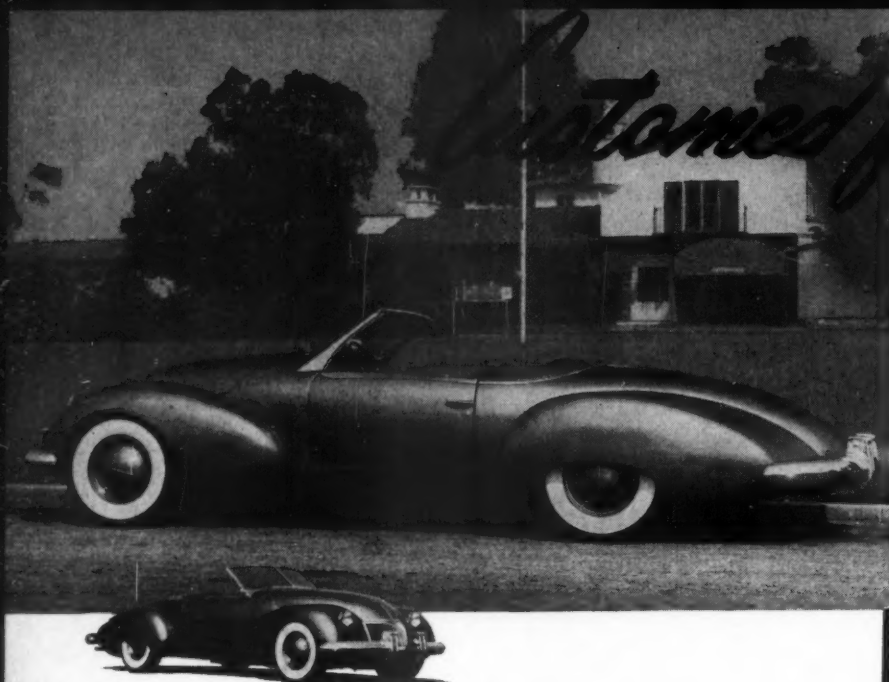
The Magazine for a Motoring World

SEPTEMBER 1951 25c

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MOTOR TREND

THE MAGAZINE FOR A MOTORING WORLD

SEPTEMBER 1951

Published Monthly



VOL. 3 • NO. 9

CONTENTS

FEATURES:

FANTASY OR PROPHECY By Harry Cushing—14

BATTLE OF THE OCTANES By Roger Huntington—16

PONTIAC MOTOR TRIAL By Walt Woron—17

BRIDGEHAMPTON—FASTEST YET By John Bentley—20

STOCK CAR RECORDS —22

NASH-HEALEY SHAKEDOWN By Dick van Osten—24

CUSTOMS FROM COAST TO COAST —26

LE MANS—JAGUAR VICTORY —28

STUTZ FOUR-PASSENGER SPEEDSTER —30

AMERICAN UNDERSLUNG —31

YOUR STAKE IN UNIFORMITY By Eugene Jaderquist—32

DEPARTMENTS:

READER REFLECTIONS —6

CUSTOM CREATIONS —8

SPOTLIGHT ON DETROIT —10

YOUR EDITOR SAYS —12

SPORTING SCENE —34

WHAT'S YOUR IDEA? —36

ACCESSORY TRIALS —38

CLASSIC COMMENTS —42

SELL 'N' SWAP —46

TRADE TOPICS —50

COVER: This beautiful Mark VII Jaguar was the first to reach the United States, has been the object of praise and admiration wherever seen. The Pebble Beach Concours d'Elegance was no exception as the blue ribbon First Award, held by Mrs. Charles Hornburg, testifies. E. Rickman took this photo on the beautiful grounds of Del Monte Lodge.

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Motor Trend

In This Issue...

PONTIAC MOTOR Trial this month is one of the most thorough inquiries ever performed in a road test conducted by any publication. It's not just the 3500 miles, plus, that Editor Walt Woron rolled up on the speedo, coming from Detroit to Los Angeles and then to a final workout at top speed on famed El Mirage dry lake. The conditions under which the car was tested are also of prime importance: they included operation at altitudes of from sea level to better than 11,000 ft.; temperatures ranging from 30° to 120°; terrain ranging from the plains, to the Rockies, to the desert; traffic conditions in many major American cities. When Walt speaks of the Pontiac, he speaks with experience.

When we put ace-researcher Jaderquist to work on the Uniform Vehicle Code Story (Your Stake in Uniformity), he dug in with characteristic vigor and his report is the result of personal interviews with top authorities in each branch of the subject: highway engineering, city planning, law, urban law enforcement. His outstanding source of authoritative information was J. Allen Davis, draughtsman of the Uniform Code since 1926.

Coverage of this year's Le Mans Grand Prix of Endurance is from able contributors John Bentley and John Lurani. Count Lurani, with co-pilot G. Bracco, brought the fabulous little V-6 Lancia Aurelia home to win its class at an average speed of 82.14 mph, proving that the little car's second place in the Mille Miglia was no fluke. MOTOR TREND's driving writers are having a successful season all around. First appearance of a supercharged Mark II MG in American competition took place when John Bentley entered his new machine in the Mecox Trophy Race at Bridgehampton. In spite of bad front end shimmy the car hit 100 mph on every lap, finished third behind Cunningham's Ferrari and Grier's Mille Miglia BMW, out-paced all six of the other blown MGs. Bentley went on to take top honors for MG performance at the subsequent Burke Mountain Hill Climb. The reporting of Bentley and Lurani is on-the-spot coverage, in the fullest sense!

As you must have gathered, we keep manipulating MOTOR TREND's make-up, searching for the balance of subject matter that pleases you most. This is not always the easiest thing to do. Our editorial staff has wide and varied tastes that we attempt to pass along to you. Each staff member is continually pitching his favorite subject into the well-banged ears of his compatriots. However, we would rather hear from you. What covers have you liked the best? Which issues were the most successful? What do YOU want to see in MOTOR TREND, The Magazine for a Motoring World?

September 1951

THE HAND THAT GIVES YOU.. ..DETROIT



This all-important hand is the Detroit Art Directors Club which dramatizes and pictures the gleaming products of the automotive assembly lines.

"They have had a great share in the automotive expansion of this country . . . have given the world a fresh picture of art in industry. . . pictorial presentation exerts a tremendous influence on the buyer, and from the picture he forms his initial preference for a car."

A. T. Lougee, President Art Directors Club of Detroit

The Detroit Art Directors Club, for the first time outside Detroit, will present a specially prepared Automotive Advertising Art Exhibit at the Pan Pacific Auditorium as a part of the 1951 MOTORAMA.

This exhibit will demonstrate the methods and forms utilized to bring the products of Motor City to the public. It will contain original works of art valued at \$10,000 . . . some especially executed for MOTORAMA . . . presented by such names as Campbell-Ewald Company, Inc., advertising agency for General Motors Corporation, Chevrolet Motor Division; J. Walter Thompson Company, advertising agency for Ford Motor Company; Ruthrauff & Ryan, Inc., advertising agency for Chrysler Corporation, Dodge Division; and the Ford Motor Company's Publications Section.

Plan to visit the 1951
MOTORAMA—November 7-11—five days
Pan Pacific Auditorium, Los Angeles
"The West's Greatest Automotive Show"

For information, address Lee O. Ryan, Director
1015 So. La Cienega Blvd., Los Angeles 35, Calif.

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Five

Reader Reflections



Letters published in this department are the opinions of the writers and are not to be construed as those of the editors. Address correspondence to: Reader Reflections, MOTOR TREND, 1015 South La Cienega Boulevard, Los Angeles 35, California

FIRE AND SPEED

Gentlemen:

... Since I am a safety engineer with an ardent interest in all types of automobiles, I am prompted to ask why racing cars are not provided with a CO₂ fire extinguisher system much the same as in aircraft. To my way of thinking, the presence of extra "hot" fuels coupled with the inherent hazards of racing add up to a necessity for this type of equipment. The only drawbacks that I can see would be extra weight and expense, but if military aircraft can use this system, where weight is one of the prime considerations, why couldn't it be used in these cars to guard against a total loss of the car, not to mention saving the driver's life? This would more than compensate for the weight and expense ...

Robert F. Hale
Albany, N.Y.

—Your idea is nothing but great. The AAA has been investigating the CO₂ problem for the past couple of years and hopes to come up with a practical application soon. As you've guessed, weight is the big obstacle.—Editor

PERFECTING THE OLDS

Gentlemen:

It seems that in every motor enthusiast's magazine I pick up, including MOTOR TREND, I see someone's gripe about the handling qualities, or lack of them, of the Oldsmobile. I would like to offer a few suggestions gained from experience with a '49 Olds and my present '50 Olds.

If the manifold heat control rattles, drive the shaft out and remove the butterfly. Plug up the holes and put it back on, to fill the space between the manifold and the pipe. Set the automatic choke two or three points leaner so it opens sooner. You may have to use plugs in a higher heat range, and the warm-up will be slightly slower. A 170° thermostat instead of the stock 151° will help and not cause overheating.

Now for handling. Find a wheel alignment mechanic who won't argue and insist on doing it his way. Then take the factory alignment specifications and see that they are followed. If caster and camber cannot be set exactly as specified, see that they are exactly the same on both sides of the car. If you have a 98 with 8.20x15 tires, change to 8.00x15. Instead of the recommended 24 lbs. pressure, use 26 or 27 lbs. with tires cold. Find some object, preferably flat, like a chunk of boiler plate, 150 to 200 lbs. and locate it centrally in the luggage compartment, on the floor. This improves cornering considerably and performance is substantially the same. This improvement in weight distribution improves the unsprung to sprung weight ratio of the rear end.

If you don't like the placement of the steering wheel, it can be lowered a couple of inches without much trouble, and as far as you want by relocating the mounting holes at the frame and cutting out a little of the floorboard. You'll need a spacer between the column jacket and the instrument panel and a longer U-bolt to hold the jacket. Loosen both the mounting bolts at the frame and the jacket U-bolt. Locate the wheel where you want it and tighten the U-bolt first. This should be done before the wheel

alignment, as it raises the left end of the idler link a little and changes the toe-in slightly. As far as I can tell, this does not affect the steering. After this change is made, the shift linkage or Hydra-Matic selector linkage should be re-adjusted.

No matter what you do, the steering will be "soft," as it is on practically all American stock cars. So keep lost motion to a minimum by adjusting the steering gear frequently, and set it to factory specifications using a spring scale. No guesswork as to when it's tight enough or loose enough.

The wheel alignment should be done after weight is added, or you end up with the wrong caster angle. The tires should be balanced, and rechecked every few thousand miles.

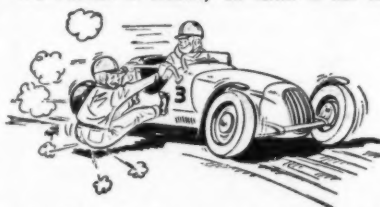
... I hope some of this will be helpful.

George W. Vance
Bristol, Tenn.

AUTO-BANKER GETS THE NEEDLE

Gentlemen:

The unique rear end design of the Auto-Banker Special is most intriguing [July '51]. However, I don't think the angle the wheel makes with the ground has anything to do with tire traction or stability on turns. Is not the



true advantage of the system in shifting weight to the inside of a turn, against centrifugal force, and thus making each rear tire carry its share of the load? If so, the method is unduly complicated, and as a byproduct, must have an adverse effect on the steering. Why not use the pendulum and pump simply to shift a weight from side to side?

My wife has (for a girl) a clear grasp of mechanical principles. She suggests a further simplification by substituting a rear seat passenger for the shifting weight. Instead of a hydraulic pump, the pendulum could actuate a prong that would alert the co-pilot at the approach of a curve

Dick Janeway
Los Angeles, Calif.

—Altamus' Auto-Banker has put up a fine showing at Giants' Despair Hill Climb, a type of event for which it was not particularly suited. More than a mere shift of weight takes place: the wheels incline, give a definite BRACING effect as the car corners. The idea is to keep pressure upon the tire focused upon the centerline of the wheel rim. As a conventional wheel skids to the outside of a turn, lateral instead of vertical pressures come into play, causing the tire to roll under the rim. If the theory is correct—and racing will prove it one way or the other—the prong-alerter will not be enough.

—Editor

FEALES WANT FUNCTIONAL CARS

Gentlemen:

I have just finished reading the current [June] issue of MOTOR TREND. ... I refer to the section called "Classic Comments" wherein a paragraph states that no comments have been received from women in the five months since its inception, and wonders whether women are

interested in automobiles.

I come from a car-minded family. My father is a used car dealer. I've been around cars all my life, and then five years ago, when I married the guy who sits across from me at the dinner table, he was interested in cars ... THIS woman is interested in automobiles.

I am also an American city-dweller and classic cars, sports cars, hot rods, etc., have very little place in my life. I am not interested in traveling 120 mph to go down the street to a movie, nor do I care to get soaked in an open two-seater when a sudden summer rain shower descends, nor do I care to risk life and limb in a road race, nor do I care to be at a loss should I need to drop off some people at a station and find that my two- or three-seater has no room for them. If I have marketing to do and need to use the car, I would like some place to put the market baskets and packages. I also do not have a few thousand dollars to throw around on automobiles. These are some comments which may interest you.

Maybe the reason women don't write in is because there is no element of practicality of purchase in these cars. Maybe it is because they do not meet the needs that women require in cars, or that families require.

We women are interested in autos, but for practical reasons—to get where we are going, to make things a little easier, etc. I don't see where an Alfa-Romeo, a Cord, or a Rolls-Royce will accomplish this or the other points I have touched upon. Maybe that's why we women are uninterested.

Perhaps, someday, somebody will come up with a combination of the sportiness of the MG, the gas mileage economy of the Nash Rambler, the beauty of design of the Jaguar, and the all-around purposefulness of the '49 Kaiser Traveler. That's when women will become more interested, and especially, this woman. ...

Mrs. Steven Stoll
Brooklyn, N.Y.

... BUT ON THE OTHER HAND

Gentlemen:

Okay, you've had it! No letters from women, you say? Ha, I'll tell you why. Women don't dare show interest in cars. ... Any girl that gets down under a car and learns anything about it is branded as unfeminine. You should see the cold stares I garner when I crawl out from under my heap into the range of a bunch of gawking tourists, or neighbors, or even old acquaintances. Funny thing, though—I can still hold my own in a frilly blouse at any dance.

I have yet to find another girl interested in the same thing. All a girl can do if she doesn't



want to become a monster in the eyes of mankind is to confine her interests to purchasing a new car, driving it until it breaks down, and turning it over to a garage to fix ...

Cpl. Joan KKinney
Camp Stoneman, Calif.

—If we were single you'd get a fan letter.

—Editor



WINS

again

at Indianapolis

**Sweeps 1st, 2nd and 3rd places
as new record is set in "500"**

1st Lee Wallard roars to thrilling win with speed of 126.244 miles per hour

2nd Mike Nazaruk takes second in dramatic finish, averages 125.302 miles per hour

3rd Manuel Ayulo, driving relief for Jack McGrath, averages 124.745 miles per hour

Mobiloil-protected cars led the fastest "500" in history from start to finish.

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It takes your Mobilgas dealer just a jiffy to service your car with the same new, heavy-duty, protection-proved oil that won at Indianapolis.



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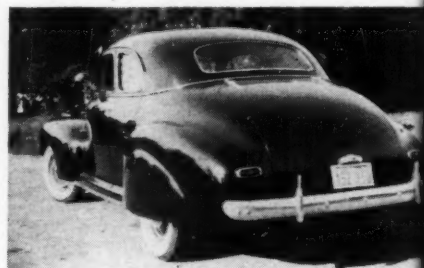
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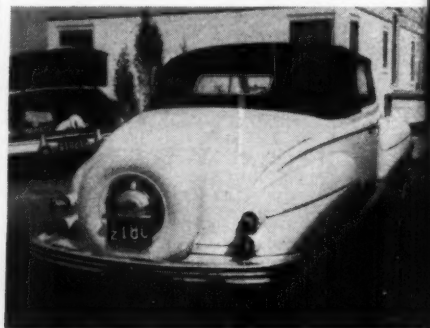
CHANNELED '39 Chevy coupe took Glenn Wolfe, Mo. Valley, Iowa, 15 months to build. Total height is 58 ins. Car has 27 coats of lacquer



RED LENSES in Buick back-up lights are tail lights on Bud Robinson's '49 Chevy, Paso Robles, Calif. Trunk, fenders, have chrome removed



REAR FENDERS are leaded into body on '41 Chevy owned by Jack Youngs, Chicago, Ill. Chrome side trim removed, hood is one piece



COMBINATION tail, park, and direction lights are carried in upper stacks, exhaust in lower ones on Pvt. Wm. Wallace's '41 Ford convertible

M
NS

Volfe,
Total
acquer

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41
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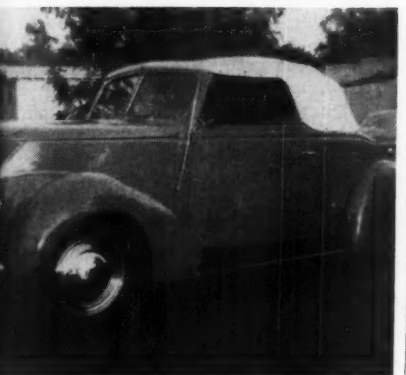
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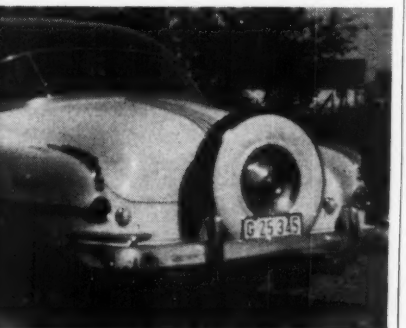
COMPLETELY DECHROMED '41 Ford, Larry Baumgartener, Cicero, Ill., uses '41 Plymouth bumpers, '48 Ford parking lights, is lowered



RICH PFEIFFER, St. Louis, Mo., is the proud owner of this '49 Merc convertible. Lowered and chrome trim removed. Pontiac tail lights added



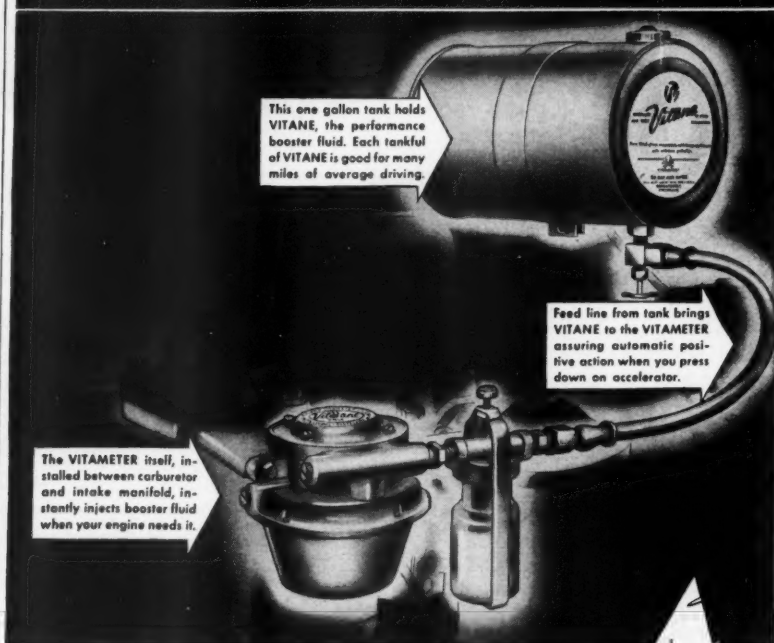
GOOD LOOKING '37 Ford convertible from Tustin, Calif., features '38 Ford rear fenders and deck, smooth hood panels, and white top



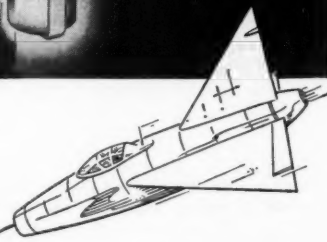
VANCOUVER, WASHINGTON, is home of Harold Mason's '50 Pontiac Catalina. The Continental tire kit was completely hand made for \$50

September 1951

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Nine

Spotlight on

DETROIT

GM GAS TURBINE—A SENSATIONAL DEVELOPMENT

by Harry Cushing

DETROIT, MICHIGAN—At last, a major American automotive manufacturer is working seriously with a gas turbine engine for motor vehicles! . . . Despite considerable reservations about its ultimate successful application in passenger cars, General Motors Research Division is designing and experimenting with a GT power unit for possible highway use. . . . According to C. L. McCuen, vice president and general manager of the GM Research Laboratory, the engine should be ready within two years. It probably will be installed first in a GMC bus, like the type used by Greyhound, for exhaustive operating trials. After that, trucks and even passenger cars could be equipped with it for test purposes, McCuen indicates. . . . Although still mostly on paper, the theoretical GM gas turbine design calls for an engine developing the equivalent of 300 bhp and securing about four miles to a gallon of fuel, regardless of what type of fuel is used. Its exhaust is three feet square and the temperature at the exhaust is 1550 degrees. Idling speed is said to be 8000 rpm.

While an automotive type turbine is a relatively new development project for the corporation, the idea has been discussed in GM Research circles for over two years, the company reveals. Actually, it is a logical development since GM is now one of the world's largest builders of GT engines through its Allison Aircraft Engine Division in Indianapolis, Indiana. William A. Turunen, head

of the corporation's Turbine Development Department, describes a hypothetical GT-powered automobile as follows: "It probably would be propelled by a dual turbine arrangement, consisting of a compressor, combustion chamber, compressor turbine and power turbine—the simplest form of the turbine engine which can be called adaptable to road vehicle use." . . . "A turbine-driven compressor, called the gas generator unit, would operate independently of the power turbine unit, which supplies power or torque to the motorcar driveshaft. The gas generator unit utilizes only enough energy from the hot gases to drive the compressor, leaving most of the high energy gases for the power turbine. Thus, the two units, in effect, would be gas coupled." . . . "This arrangement," he explains, "would give maximum torque with the driveshaft stationary. The com-

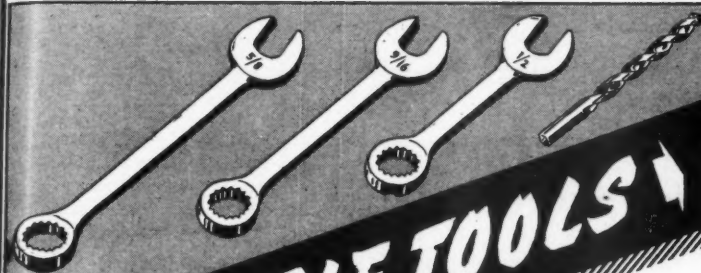
pressor and gas generator could operate at maximum efficiency, while the power turbine would maintain torque and speed to suit the demand of the motorcar driver."

"Although the gas turbine has often been described as a simple machine with one working part, this simplicity may be deceptive. A complete installation is a very bulky group of components demanding the utmost in design effort if machinery space is to be prevented from overrunning the passenger cargo space. This is due primarily to large air requirements demanding space-consuming ducts," Turunen points out. . . . On the basis of what is known today, he cites these advantages of the GT over conventional engines: (1) it may operate with a wide range of fuels, (2) absence of power impulses probably would reduce the vibration problem, (3) lubrication may be simplified, (4) electric ignition is required only for starting, (5) maximum torque at standstill with uniform torque over its entire speed range, (6) a transmission with only one ratio change, (7) and the possibility there would be no clutch mechanism. . . . At the same time, Turunen finds a number of major obstacles in comparison with conventional reciprocating engines. Briefly, these are: (1) high fuel consumption, (2) need for foolproof controls to insure

(Continued on page forty-eight)

NASH RAMBLER hardtop, recently released to dealers, continues Rambler tradition of luxury in small package, is called "Country Club" model

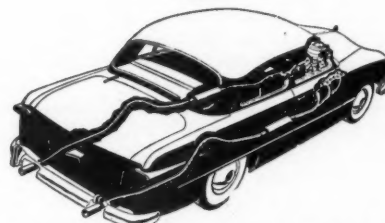




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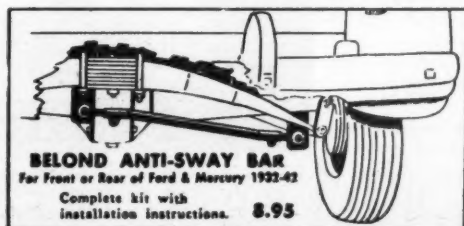
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Your Editor Says . . . WHAT ABOUT CROWD CONTROL?

POOR CROWD CONTROL is more than just a failing of one phase of a sports car event. To our way of looking it's far more serious—it *can be the failing of the entire sport.*

It's high time that this subject is brought out into the open. There's no use trying to hide a light under a bushel—someone is bound to eventually get curious about what's underneath. It's important for all of us to see to it that positive action is taken to improve the conditions that now exist before the combined efforts of unsympathetic segments of the press cause the banning of all forms of motor sporting events.

Luck has been with us in all of the races that have been run off recently. If it hadn't been, we would have been fighting for the preservation of the sport *right now.* How many races have you attended where you saw an accident that could have resulted in injury or death? We've seen too many.

Remember the adverse national publicity that attended last year's Watkins Glen Road Races? Crowd control was

admittedly poor, as it has been at other events before and since that time. We're not singling out this one event as any more than an example but it is the one affair that receives more national publicity than any other sports car race during the entire year. Therefore, it should be the smoothest and safest event of all.

Sure, it's a big job, controlling thousands of stampeding fans who have no regard for their own life and limb, and who are only interested in getting a closer look at the cars going by. What matter to them that their crowding onto the course funnels down the passageway so as to make it precarious for drivers to pass? And of what concern is it to them that in attempting to miss one person, a driver spins out, wrecking his car, injuring himself, possibly maiming bystanders?

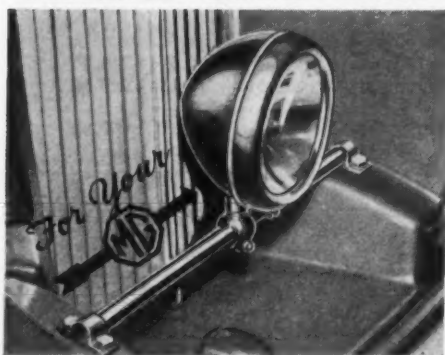
The basics of crowd control are simple enough: set up designated areas where observers can sit or stand, mark these off, and allow no one to move over them during practice or the actual running of the event. Individual problems will have to be met, and improvements can be added.

An ideal situation would work something like this: The entire course would be fenced off, with one, or possibly two, entrances. An instruction sheet with a map would be given to each spectator as he enters which will show him where he can sit or stand. These areas will, generally, be alongside straightaways and be at the inside of curves, never at the outside, and would be roped off to assist the patrol committee. Where escape roads are used, no spectators will be allowed on either side of such a road. Steady policing of these designated areas will be necessary at all times, with a warning that if a spectator is noticed on the course at any time, the race will either be stopped or he will be evicted from the premises, or both. To aid the persons policing the crowd, loudspeakers would be used.

It's not impossible to police a course properly, but it takes the cooperation of all concerned. The important thing is to set it up to meet the particular situation, then let the spectators know where they're supposed to stay. They'll cooperate if the race, *and the sport,* depend on it.

—W. W.

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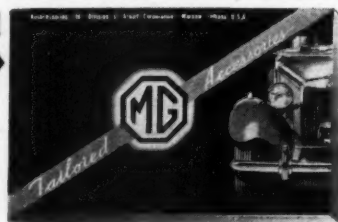
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FANTASY or PROPHECY?

KF DESIGNERS CLAIM THAT PRESENT
STYLING HAS SERVED ITS PURPOSE—
WE'RE READY FOR AIRCRAFT-DERIVED DESIGNS

by Harry Cushing

AUTOMOTIVE STYLING has just about reached the limits of development in its present channels. That is the current consensus held by leading Detroit stylists, many of whom claim that you may expect entirely new concepts of car design by 1960.

If you could look behind the padlocked doors of automotive styling departments, you would blink your eyes in amazement and disbelief. On every side are drawing tables covered with sketches and finished designs of future products as seen through the eyes of the individual stylist. In another room you would find scale models, small versions of the vehicle you may someday own. In still another section, you would see breathtaking full-size mock-ups of projected designs that would leave you spinning, wondering if you would drive it or fly it! These are not the brain-children of lotus-eating dreamers, but the results of cold, hard, for-the-market planning. Let's turn back to the original sketch and find out what is influencing these stylists.

In direct contrast to the fashion stylist who tells you what you want, the auto-

motive stylist designs to your specifications. His drawing board must reflect the trend of current public demands or he becomes a deficit to his employer. It is well remembered that one design failure may wipe out an entire organization.

At present, the public wants more power, higher speeds, and less weight. All these throw a great load upon styling and engineering specialists as they must experiment constantly to achieve these demands while suffering from material restrictions and shortages. A major effort is being made to greatly lighten the average American passenger car with a two-fold object in mind. A lighter car means that higher performance may be obtained with existing engines and the bill of material is substantially reduced tending to hold down cost per manufactured unit.

A noted Kaiser-Frazer stylist, Alex Tremulis, has this to say: "From 1900 until today it has been obvious that annual model changes in car lines would smooth out the old box shapes of early vehicles. Those first cars were modeled after buggies and it has taken 50 years to get the public to appreciate more radi-

cal styles. Now that we have reached the point where buyers will accept integral design with functional appearance, we can go forward into more advanced concepts of transportation." Tremulis further believes that turbine engines and three-wheel cars are within the not-too-distant future.

Kaiser-Frazer stylists predict that "... within two or three years ..." you will be able to purchase a car of the general type shown on these pages, providing war or government restrictions do not interfere. Other designers are not as optimistic, declaring that it will be nearer six years for the really new silhouette to make an appearance. Still other stylists do not look for any such radical changes. They feel that the huge cost of tooling, \$15 million plus for a single set of dies, will preclude the manufacturer from taking any possible gamble on public acceptance or rejection of an advanced design.

Again Tremulis states that "... while it is much harder today to predict precisely what cars of the future will look like than any time in recent history, California customs and experimental cars such

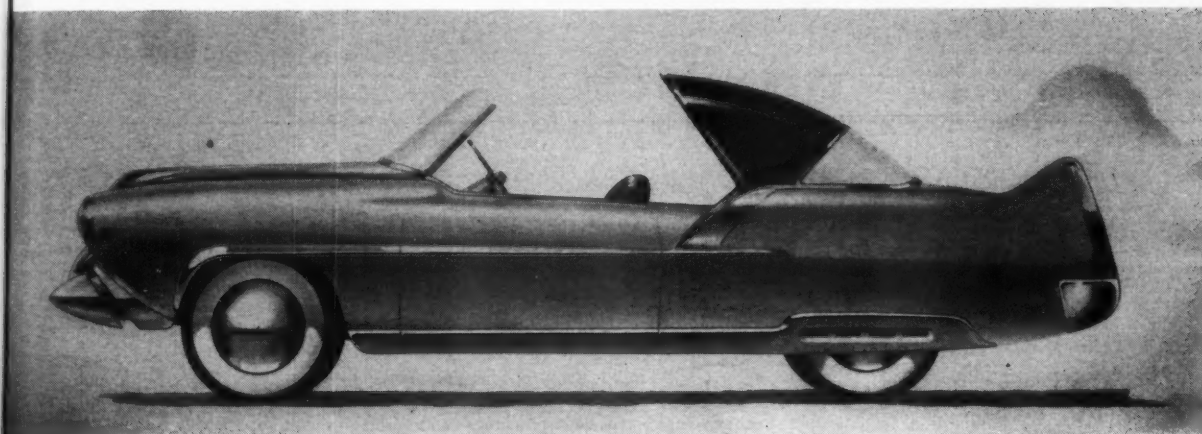
KF STYLIST Tremulis created this design (left) which features suspended park lights, "stabilizing fins," radiator separate from engine space

as Le Sabre are helping to clarify the design picture."

Several Detroit stylists who have often witnessed their dreams turned into practicality have listed ten features that you may find in the car of tomorrow:

1. Lower center of gravity through a lower chassis.
2. Elimination of A-pillar—the supporting post on either side of the windshield.
3. Smaller and lighter engines, with possibility of rear-engine location to get away from heat, noise and poor visibility.
4. New seating arrangements with trend towards cars like Buick's XP-300.

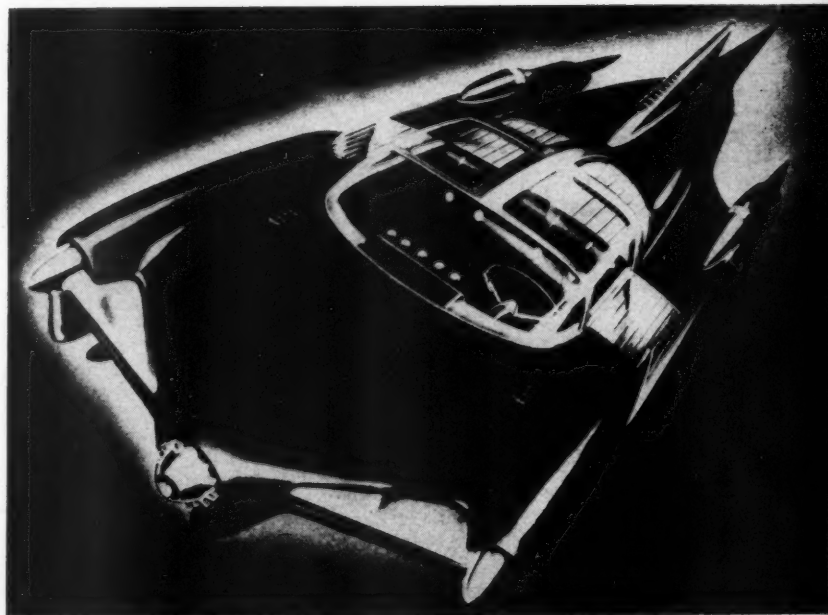
FLOWING FENDER treatment in this Weissinger drawing (right) contributes feeling of length. Sliding plastic shield is fitted under plastic top



LANDAU HENRY J study (above) is an attempt by KF Stylist Weissinger to incorporate European treatment in modern short-wheelbase custom job

5. Three-wheel cars for sports use. This will enable stylists to combine better streamlining with lightness and roadability.
6. More functional seats saving as much as 50 lbs. in weight.
7. Reduction in overall car weight through more efficient use of materials.
8. Development of a trend to smaller, economy-type cars. One prominent stylist points out that if our standard of living continues to inflate, cars of this character may well be the industry's salvation.
9. Cleaner lines and less chrome—
10. Continental influence, adapted to American production methods.

POSSIBILITY of front-wheel drive on turbine-powered three-wheel car is explored in this Tremulis study. Stainless-steel doors roll down



BATTLE of the OCTANES

by Roger Huntington

TEXACO is planning to give you 35 miles per gallon on fuel oil and kerosene! They're trying to do it with 12 to 1 compression ratios, a "swirl"-type combustion chamber, direct fuel injection, and fantastically lean fuel mixtures—to give consumption rates that wouldn't ever be possible with present cylinder types.

Don't laugh. The petroleum industry knows only too well that America's crude oil reserves aren't going to last forever the way we're burning them up, and they'd like nothing better than to see us double our tank mileage. But at the same time, they're not at all anxious to lose another 15 per cent of that precious crude barrel in refining up 100-octane gas to help us do it. And the estimated cost of \$2 billion to convert to super-octane mass production doesn't bear thinking about either!

The auto and oil industry would much rather increase your mileage with cheap, low-octane fuels if possible. And Texaco's answer might well be the best one.

What Are We After?

Now in the first place, we all know that one easy way to decrease our engine's fuel consumption per hp produced is to boost the compression ratio. By doing this, we bring the fuel-air mixture up to a higher pressure before firing it, which raises the gas temperature on combustion

—which, in turn, allows us to *expand* the "working fluid" farther.

That's why a diesel engine is so economical—it runs at 14 or 18:1 compression ratio. It's just a matter of squeezing more work out of every drop of fuel consumed.

Now that's easy enough to understand. But there's a nasty catch here: With a spark-ignited, carburetor-type engine, we run into the phenomenon known as "knock" or detonation when we raise the compression above a certain point. You've all heard this "ping" in some engines when they're pulling hard at low rpm. What's going on in the cylinders to cause all this commotion is a pretty complicated matter, but here's briefly what happens:

The fuel mixture does not *explode* when the spark fires, but *burns* away from the plug in a smooth, spherical "flame front." (This is because it requires a definite amount of *time* for the oxidation or combustion reaction to take place in the mixture.) In the meantime, our fast-moving flame front is compressing a shock wave of unburned mixture ahead of it, much like the prow of a boat plowing through water. This rapid compression generates a great deal of heat. Couple this with the heat generated on the compression stroke, add any tendency toward pre-ignition picked up from "hot spots" on the combustion chamber surface—and the total may be enough to instantaneously

explode all the unburned mixture ahead of the normal flame front.

Result: Cylinder pressures and temperatures shoot sky high, shock waves run wild, power output drops, and our engine takes one terrific beating! Any slight detonation causes a loss of fuel efficiency; severe detonation will wreck an engine in a hurry. We must stay away from it at all cost! There's our problem. What do we do about it?

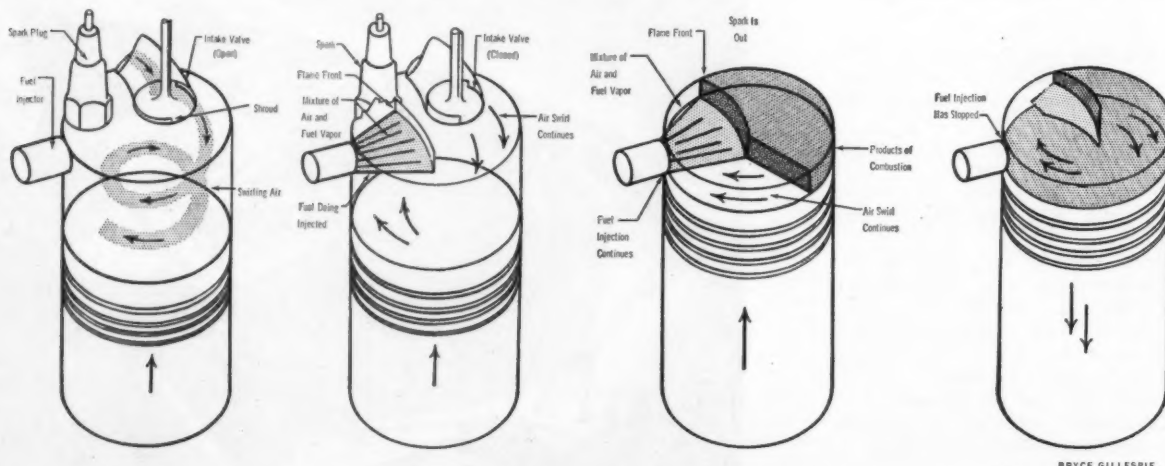
Test Tube or Drawing Board?

There are two general paths by which we can boost compression ratio without getting into knock: Develop slow-burning high-octane fuels or develop new engine designs that will carry high compression on low-grade fuel without knocking. In other words, we can get our "octanes" in the test tubes of the refineries or on the drawing boards of the factories!

The first important steps were taken during the last war when huge volumes of high-octane gasoline were produced for our military aircraft. This proved that the test tube could provide the answer to high compression—at a price.

Soon after the war General Motors, under the direction of "Boss" Kettering, began experimenting with high compression as applied to conventional automotive

(Continued on page forty)



HOW THE Texaco Experimental engine works: First drawing, at left, shows creation of air swirl on intake stroke. Next, fuel injection and ignition take place on compression stroke. Third step shows combustion half-completed at end of compression stroke. Finally, combustion is almost completed at start of power stroke, chance of detonation eliminated

PONTIAC

MOTOR
TRIAL



3500-MILE MOTOR TRIAL PROVES FINE FAMILY CAR TOPS IN TOWN AND ON THE OPEN ROAD

UNTIL RECENTLY I've been lukewarm on the subject of Pontiacs . . . somehow they never impressed me as cars to get excited about. After 3500 miles behind the wheel of a Pontiac 8, however, I've changed my entire outlook.

Due to the overwhelming majority of our readers voicing a preference for a Motor Trial of a Pontiac, when it became necessary to visit Detroit on other business matters we made the decision to pick up a new car there and drive it cross-country to Los Angeles. This, we felt, would give the car an over-the-road check-out impossible on our otherwise comprehensive Motor Trial.

After final arrangements were concluded with the Pontiac Motor Division my wife and I entrained for the motor capital. During our week's stay there, the car was afforded an ample break-in period (777 miles), the brick and rough-surfaced roads giving it a brutal workout.

The route home was purposely laid out to take the car over dirt, oiled, macadam, brick and concrete road surfaces, and through as many climatic and altitude changes as possible. From Detroit, we drove over curving roads through Fort Wayne to Indianapolis, maintaining a cruising speed of around 55 mph. On our arrival there the car was considered to be

by Walter A. Woron

thoroughly broken in, and I increased our speed, crossing the rolling hills of Illinois and Missouri at speeds up to 70 mph.

Up to the time of our arrival in Kansas the weather had been clear and hot (85° F). But after crossing the Missouri-Kansas border we were treated to rain and high winds, the edge of a thunder and rain-storm that was wreaking havoc in Nebraska. We had found how the car handled on dirt (on two long dirt road detours) and were soon to find out its mudding characteristics. On this next detour, a sea of mud, the Pontiac was scraping bottom, but had no trouble in slushing through.

When we crossed into the high country of Colorado the temperature had dropped to 50°F and soon reached the freezing point. In a few more hours we were in the first of the winding roads and switchbacks of the Rockies, while mile after mile of snow-covered ground slipped by. As we approached the Continental Divide, through 11,314 ft. Berthoud Pass, snow began to fall—as if not wanting to see us disappointed in the hope of hitting all types of weather.





COVERED WITH Illinois mud, Pontiac crosses Mississippi River into Missouri at Hannibal

Although this was the highest altitude we were to reach, we stayed in rarified air as we wound through the rest of Colorado and Utah. Our route through Utah bypassed Salt Lake, taking us through Zion National Park, across one corner of Arizona, and into the scorching (80°F at 9 P.M.) Nevada desert. A 2000-mile check was called for in Las Vegas, so it was



RELIABLE PONTIAC sailed over the Continental Divide with ease, showed no overheat tendency

4 P.M. before we crossed the dried-out land between that city and Barstow, California. Even so, the thermometer was pushing 120°F, which, in combination with some steadily rising grades, was enough to cause many cars to pull over with vapor locks and overheating.

After our arrival in Los Angeles, I tallied all the accurately-kept figures (fuel consumed, time elapsed, miles traveled), arriving at the following averages: total distance—2835.3 miles; average elapsed time speed (not counting overnight stops)—46.7 mph; average "on-the-road" speed (discounting *all* stops)—52.2 mph; and, average fuel consumption—17.49 mpg. It is interesting to compare the trip mileage

PASSING THROUGH Utah's Red Canyon (right), we headed for California and windup of test

Eighteen

against that obtained later in our steady 45 and 60 mph checks—it falls into position as if it were plotted on a graph. (See Table of Performance.)

The trip completed, Associate Editor Dick van Osten and I still had another two days work ahead of us. For, although I knew how the Pontiac 8 cruised on the open road, how it handled through mountainous country, what it did on dirt roads, how it acted in traffic, and how it rode. I still did not know much about its actual performance: its road hp, its acceleration

steering wheel vibrations were noticed on brick roads, and some shock was picked up on poorly maintained roads; however, no audible "thump," indicating heavy shock, could be heard.

RIDE: The ride of the Pontiac is as reasonable a compromise as the steering—it's not too hard, nor is it too soft. "Ocean-wave" roads, which are the hardest on softly-sprung cars, had no effect on this car—it made a smooth sea out of an otherwise choppy one. And yet, dips and bumps in other roads, taken at both low and high



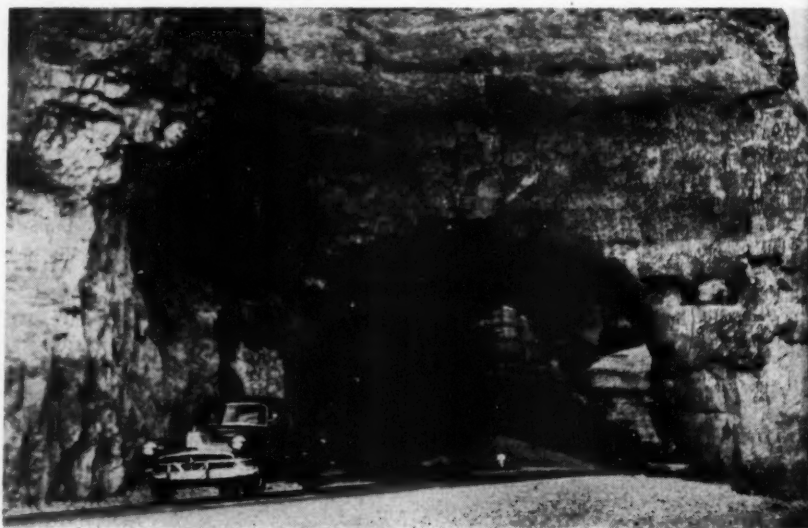
We cruised in solid comfort over U.S. Route 36 and across hospitable Kansas

qualities, its top speed, its fuel consumption at various speeds, its braking characteristics. Here's what we found.

STEERING: The Pontiac lays into corners well for a stock American car, not like a sports car, but that it's not intended to do. With its 19:1 ratio and four turns from lock-to-lock, it's a good compromise between fast and slow steering cars. Around sweeping curves it doesn't pitch or heel, so you're not constantly fighting the wheel to keep it under control. Rough sections of road (of which it saw more than its share) don't have a tendency to jerk the wheel out of your hands. Minor

speeds, were not unduly noticeable.

BRAKING: Across country, every time I had to hit the brakes, I was certain of their action. I always had the impression that when I had to stop, the brakes would be there. Even at speeds of 70 mph, they give you that sure feeling. In the actual brake tests conducted later, they were not found to be unusually short in stopping distances, but with 101 sq. ins. of brake lining area per ton, they proved themselves to be as good as most units. It was only during our acceleration runs, where we are continually accelerating, then slowing down rapidly to start all over



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again, that we noticed any brake fade. When we reduced the brakes to this state, we allowed them a few minutes to cool off, and they were soon back to normal.

COOLING: An item usually overlooked by the average motorist, unless he drives continually in the hottest climate, is the cooling system. Here, the Pontiac is nothing short of remarkable. Only once on the trip did the water temperature reach 170°F, and this was climbing up a steep desert incline, with the outside thermometer reading 90°F. Normally, the cen-



AS WITH almost all "family-sprung" cars, Pontiac's front springs deflect considerably during hard braking. Nevertheless, ride is excellent



TOP SPEED was checked with fifth wheel on natural proving ground of El Mirage dry lake

trifugal water pump and 1½ qt. capacity system keep the water at a low 140°F. Again, it was only the hard acceleration testing that managed to bring the water temperature above this figure.

ACCELERATION: This factor of the Pontiac 8 is about average, giving adequate acceleration for almost any motorist in normal traffic conditions. Believing that the car would accelerate faster from LOW to DRIVE, we tried this method after using only DRIVE. Using the DRIVE range of Hydra-Matic, the transmission automatically shifts at 15 mph into second, at 30 mph into third and at 60 mph into fourth

gear. When using LOW, the transmission shifted into second at 25 mph, we shifted into DRIVE range at 40 mph (taking it into third) and the next shift came automatically at 60 mph into fourth. The difference between methods was hardly noticeable (see Table of Performance).

TOP SPEED: At sustained speeds of 65-75 mph, the Pontiac holds the road with an even keel. At higher speeds, naturally, you have to be constantly alert (as is true of any car at high speeds), but no hesitancy was felt in taking the car through its four runs at top speed through the traps. Highest one-way speed

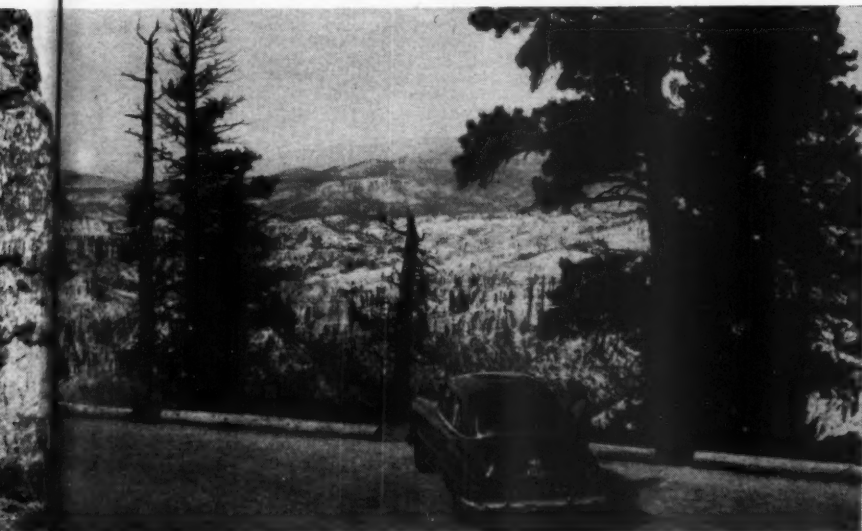
was just over 90 mph, while the average of the four runs was 87.72 mph. At maximum speed the speedometer was pegged slightly over the 100 mph mark. **TRANSMISSION:** This car was equipped with Hydra-Matic, an automatic transmission with which our readers, by now, are thoroughly familiar. In place of this transmission it is possible to have a standard gearbox, which, to us, is still the more efficient unit. As has been pointed out in



CHANGING WHEELS on this car is easy for almost anyone, but lifting spare from storage space is a big job for a feminine motorist

many previous Motor Trials, an automatic transmission is best for those motorists who do not wish to be annoyed by shifting; those who would rather have more positive control of their cars should specify a standard unit. The Hydra-Matic installed on this car had the usual fluid "slip" or "lurch" during gear-changing, so prevalent among transmissions of this type. One more positive advantage of the conventional gearshift over automatic is the ability to downshift going downgrade through the mountains, and particularly when following a stream of traffic. In the Pontiac I had to constantly apply the
(Continued on page forty-four)

BRYCE CANYON National Park (left) was among many side-trips which piled up mileage on test



BRIDGEHAMPTON—

FAC

A GREAT DAY for the 20,000 sports car fans forming a human picket fence around the picturesque four-mile road circuit at Bridgehampton, Long Island was June ninth, the events being sponsored by the local Lions Club. The fans had their quota of thrills (there was one flip, a hectic skid and several spin-outs); saw the course record shattered by England's Tommy Cole and witnessed America's fastest sports cars handled with polished skill by outstanding drivers of the SCCA. MG Car Club and Motor Sports Club who jointly organized the races.

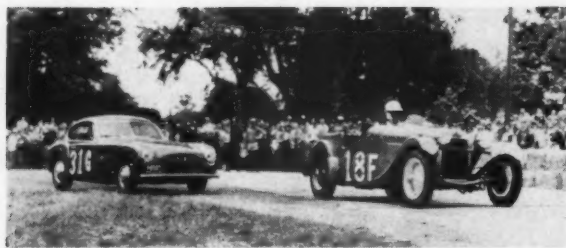
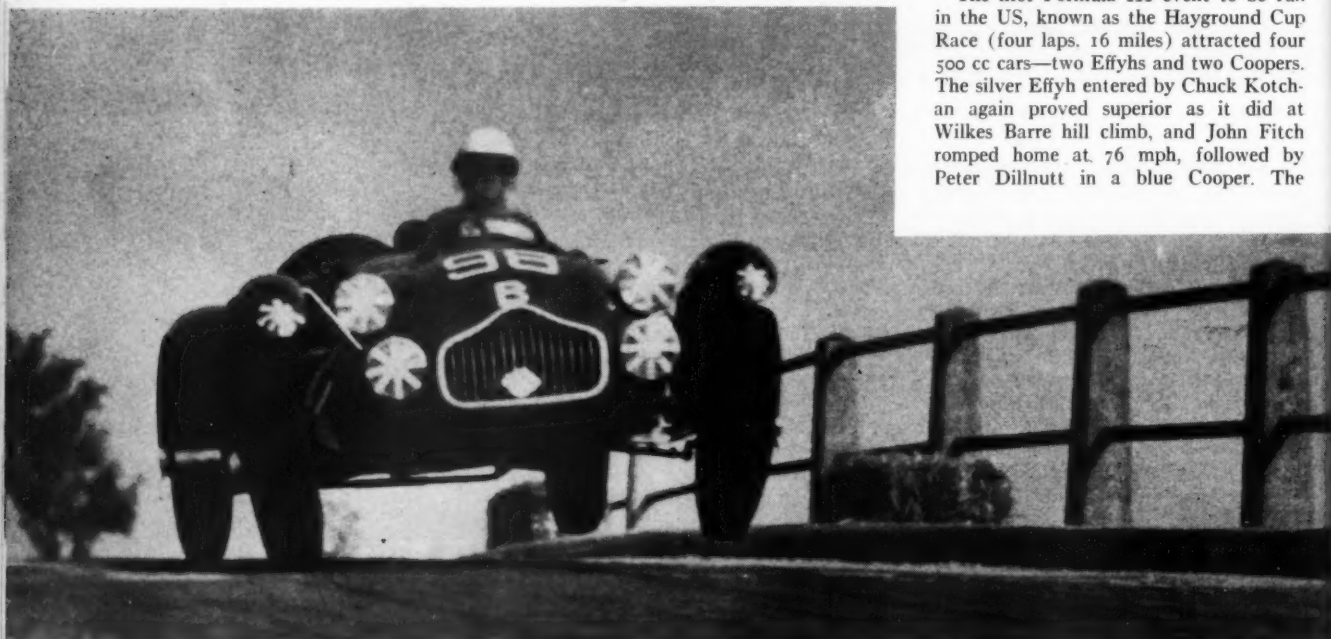
T. L. H. Cole, handling a green J2

Allard powered (for the first time) by a Chrysler V-8 engine, easily won the 100-Mile Bridgehampton Cup at an average of 86.9 mph, beating his own 1950 record by seven mph. Starting from pole and sharing the front row with Erwin Goldschmidt's red Cadillac-Allard, Cole at once went ahead and was never challenged. He clocked 84.2 mph on his first lap and pulled away from Phil Walters in Briggs Cunningham's 2.3 litre blue Ferrari *berlinetta*, until the 16th lap when he led by nearly two miles. About the 18th lap, Goldschmidt closed in on Phil Walters and a dog-fight developed for second place

On lap 20, Goldschmidt overtook Walters but was hard pressed by the Ferrari and stalled out two laps later, letting Walters back into second place where he stayed. John Fitch, in the beautiful Le Mans XK 120 of Coby Whitmore ran a deserving fourth, well ahead of the rest and living up to the car's promised performance.

One of the highlights was the pitched battle between Fred Wacker and Bob Reider, both in XK 120's. Those two ran nose to tail and traded position no less than five times, to the crowd's delight. Wacker led on the 24th lap, but last time round Reider scrambled by again to snatch fifth by a few yards.

The first Formula III event to be run in the US, known as the Hayground Cup Race (four laps, 16 miles) attracted four 500 cc cars—two Effyhs and two Coopers. The silver Effyh entered by Chuck Kotch-an again proved superior as it did at Wilkes Barre hill climb, and John Fitch romped home at 76 mph, followed by Peter Dillnutt in a blue Cooper. The



CLASS F AND G race—the Sagaponack Trophy—was won by Russell Boss, whose Cisitalia pursues Iselin's Offenhauser-powered HRG. This very promising vintage machine held fourth place until plugs fouled

LINEUP FOR day's first race gives clear impression of tight, tricky course. Crosley at right was piloted by Dan Sauvigne in 100-mile main event—he won Austin Motor Company's trophy for sportsmanship



BEST YET!

by John Bentley

Briggs Cunningham Cooper driven by Phil Walters, and Bob Grier's Effyh both spun out and stalled on the first lap and neither could be restarted; in fact they were swallowed by the crowd and the Chief Steward had a tough time finding them! The great thing is that U.S. Formula III racing has, at last, become reality.

The Hampton Cup qualifying race of 40 miles for Classes C and B (3000 to 8000 cc) brought 17 starters and was won by Tom Cole in the Chrysler-Allard, with Goldschmidt's Cadillac-Allard second, 25 seconds behind, hard chased by Bruce Stevenson in John Meyer's Meyer-Cadillac Special. On the last lap, Harry Grey driving Peter Yung's XK 120 skidded wildly from a seized wheel bearing and hit a spectator on a haybale at the Main Street curve. Luckily, injuries were slight. The winner averaged 82.28 mph.

The Mecox Trophy Race was another 10-lap qualifying event for Classes E and D (1500 to 3000 cc) and Class F (1100 to 1500 cc) novice drivers, had 21 starters.

Due to John Archibald Jr., a novice, hitting a haybale and overturning his TC MG at Bridge Lane Corner, the race was stopped and restarted on the third lap, according to positions already held. The first three overall places went to Cunningham (Ferrari), Walters (2.3 Ferrari) and Simpson (Silverstone Healey); Cunningham's average was 77.83 mph.

The Sagaponack Trophy Race, first of the 10-lap qualifiers, opened the day for cars in Classes G and F (750 to 1500 cc) and drew 27 starters, including a mixed bag of 18 TCs and TDs and a couple of Mark II MGs. The star performer was Perry Boswell's exquisitely styled, bored and stroked Lester MG, just arrived from England. Moving way out front from pole, Boswell led by 300 yards at the end of the first lap and by half a mile on the second lap. It looked like a walk-over for the low, sleek, metallic green car—until lap three when the clutch gave out and Fritz Koster's fast HRG took the lead, holding it for six laps before his plugs

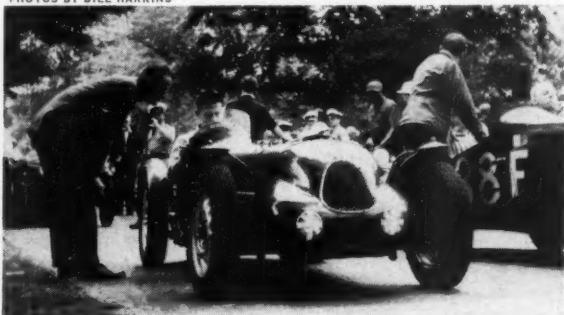
fouled. Koster finished on two cylinders.

The first three places in Class G (up to 1100 cc) were taken by the Cisitalias of Russell Boss, Joe Ferguson and Jim McGee who was driving Paul O'Shea's car. In Class F it was James Stiles, Jim Pauley and Donald Millians, all with MGs. Boss, the overall winner, averaged 67.92 mph.

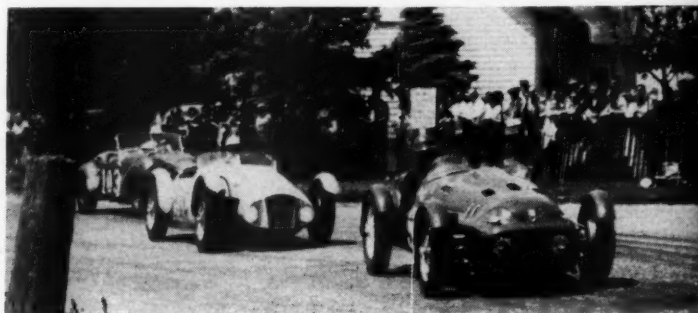
The colorful Antique and Vintage Car exhibition run was a cinch for Charlie Addams's 1928 blown S Mercedes, followed by Court Rogers in the supercharged, twin-cam Indianapolis Mercedes that Lautenschlager drove in 1923, and Bill Daily in a shiny yellow Mercer. It was Rogers, however, who received the trophy on a basis of performance and appearance. The majority of cars in this run were lent by Austin Clark from his unique collection of Old Timers.

Though crowd control offered some alarming problems and the public's invasion of the pits hampered drivers and crews, the third Bridgehampton annual road racing meet was the most successful yet.

PHOTOS BY BILL HARKINS



BOSWELL'S LESTER MG, just over from England, bored and stroked and fastest and most beautiful of all in the class F & G event, led the field by a half mile until clutch gave out. Boss' Cisitalia was winner

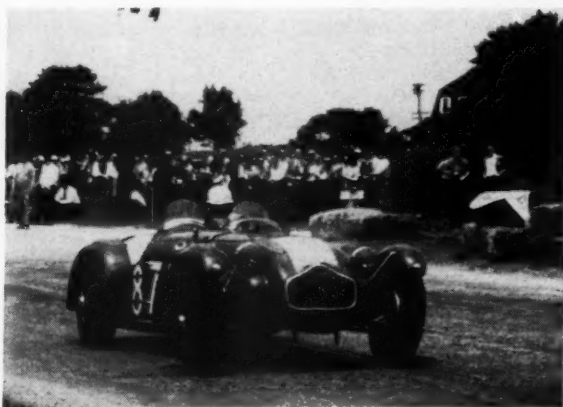


PERRY FINA'S Cadillac-Nardi leads the Fitch-Whitmore XK around School House Turn, followed by Fred Zeder's Chrysler-Allard. Fitch and Zeder were first and fourth in Class C, winner averaged 82.28 mph



FERRARI DUEL in the dust between Briggs Cunningham (42) and Phil Walters during Mecox Trophy. Cunningham won this event, Walters fought way to second in the main, ahead of Goldschmidt's Cad-Allard

TOMMY COLE in the victorious Chrysler-Allard ran a race by himself in the main event, finished good two miles ahead of the nearest car



STOCK CAR RECORDS

**PRODUCTION CARS ARE GOING
FASTER—WHEN WILL THEY
CATCH UP WITH THE GOING
JOBS OF YESTERDAY?**

POWER—and its product, SPEED—dominate the new Detroit trend and it's to be expected that assaults on American Automobile Association stock car records will soon be resumed by American manufacturers. It will take good cars to top the records that already exist, even though those were set back in the Thirties. We still don't produce a car that can match the top speed of the Cord Super Eight of 1937! But many of the existing records can be challenged now. What they are, and what determines a record-contending stock car, follows.

Before a car can qualify for an AAA stock car record, it must meet the rules set forth by the Contest Board of the AAA. Quoting from the AAA rules, a stock car is defined as "a motor vehicle that is in regular production, is described in the current catalogs of the manufacturer, is advertised in the regular schedule of advertising, is on sale through the regular trade channels, which carries the same equipment or optional equipment as advertised and on sale at the time of the certified test, and is identical in construction, material, equipment and technical details with the standard production of said model at the time of the test. Model shall be construed to mean one specific combination of chassis, body and equipment."

The car is not considered a standard model unless it is one of not less than 500 identical units that have been built or are scheduled for production during the space of one year from the time that the first model was introduced and of which 25 must have been completed and distributed before it can compete.

Changes permitted in a car, to again quote from the AAA stock car rules, are as follows: "Since it is the purpose of speed trials and record attempts to demonstrate to the public what may be expected

CORD SUPER Eight is still America's stock car speed champion. In 1937 Ab Jenkins did the flying mile at 107.66 mph, 2000 miles at 101.93

AAA OFFICIAL STOCK CAR RECORDS

DISTANCE	TIME	SPEED MPH	DATE	CAR
UNLIMITED CLASS, CLOSED CAR DIVISION (Unlimited Displacement)				
Standing Kilometer	:36.305	61.61	2/23/33	Essex Terraplane
Standing Mile	:52.39	68.71	8/12/34	Chrysler Airflow
Flying Kilometer	:20.78	107.66	9/16/37	Cord Super-8
Flying Mile	:33.44	107.66	9/16/37	Cord Super-8
UNLIMITED CLASS, OPEN CAR DIVISION (Unlimited Displacement)				
Standing Kilometer	:36.795	69.79	6/29/35	Auburn Speedster
Standing Mile	:51.88	69.40	6/29/35	Auburn Speedster
Flying Kilometer	:21.29	105.05	6/29/35	Auburn Speedster
Flying Mile	:34.56	104.17	6/29/35	Auburn Speedster
CLASS B—CLOSED CAR DIVISION (305 to 488 Cu. In. Displacement)				
Standing Kilometer	:38.33	58.36	8/12/34	Chrysler Airflow
Standing Mile	:52.39	68.71	8/12/34	Chrysler Airflow
Flying Kilometer	:23.35	95.81	8/12/34	Chrysler Airflow
Flying Mile	:37.62	95.71	8/12/34	Chrysler Airflow
CLASS B—OPEN CAR DIVISION (305 to 488 Cu. In. Displacement)				
Standing Kilometer	:37.66	59.40	6/19/32	Auburn Speedster
Standing Mile	:53.71	67.03	6/19/32	Auburn Speedster
Flying Kilometer	:22.21	100.74	7/ 9/32	Auburn Speedster
Flying Mile	:35.72	100.77	7/ 9/32	Auburn Speedster
CLASS C—CLOSED CAR DIVISION (183 to 305 Cu. In. Displacement)				
Standing Kilometer	:36.305	61.61	2/23/33	Essex Terraplane
Standing Mile	:52.795	68.19	4/11/35	Hudson Eight
Flying Kilometer	:23.825	93.89	8/23/39	Hudson Eight
Flying Mile	:38.345	93.88	8/23/39	Hudson Eight
CLASS C—OPEN CAR DIVISION (183 to 305 Cu. In. Displacement)				
Standing Kilometer	:42.17	53.05	5/14/31	Willys-Six Rdstr.
Standing Mile	:61.56	58.48	5/14/31	Willys-Six Rdstr.
Flying Kilometer	:32.225	69.42	5/14/31	Willys-Six Rdstr.
Flying Mile	:50.925	70.69	5/14/31	Willys-Six Rdstr.
CLASS C SUPERCHARGED—CLOSED CAR DIVISION (183 to 305 Cu. In. Displacement)				
Flying Kilometer	:20.78	107.66	9/16/37	Cord Super 8
Flying Mile	:33.44	107.66	9/16/37	Cord Super 8
CLASS C SUPERCHARGED—OPEN CAR DIVISION (183 to 305 Cu. In. Displacement)				
Standing Kilometer	:36.79	60.79	6/29/35	Auburn Speedster
Standing Mile	:51.88	69.40	6/29/35	Auburn Speedster
Flying Kilometer	:21.29	105.05	6/29/35	Auburn Speedster
Flying Mile	:34.56	104.17	6/29/35	Auburn Speedster
CLASS D—CLOSED CAR DIVISION (122 to 183 Cu. In. Displacement)				
Standing Kilometer	:46.225	48.39	9/11/39	Hudson Six
Standing Mile	:1:05.84	54.68	9/11/39	Hudson Six
Flying Kilometer	:27.55	81.19	8/27/39	Hudson Six
Flying Mile	:44.34	81.19	8/27/39	Hudson Six
CLASS F—CLOSED CAR DIVISION (67 to 91.5 Cu. In. Displacement)				
Standing Kilometer	:47.088	47.51	4/28/50	Austin A-40
Standing Mile	:65.298	55.13	4/28/50	Austin A-40
Flying Kilometer	:32.850	68.10	4/28/50	Austin A-40
Flying Mile	:54.822	65.67	4/28/50	Austin A-40

No records established in the following classes:

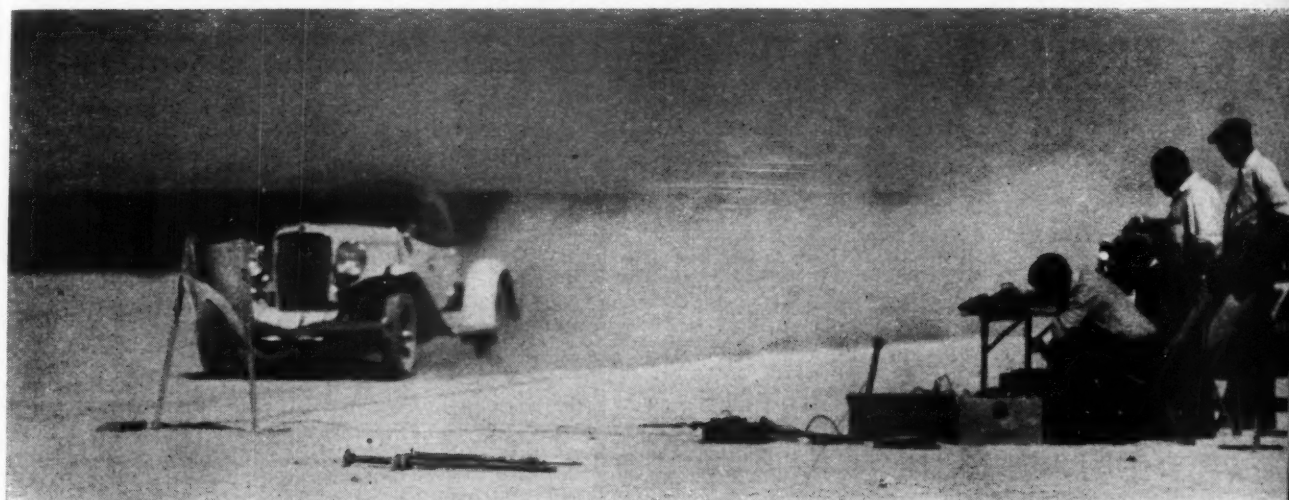
CLASS E (91.5 to 122 Cubic Inch Displacement)

CLASS F—OPEN CAR DIVISION (67 to 91.5 Cubic Inch Displacement)

CLASS G (45 to 67 Cubic Inch Displacement)



F. N. KIRKPATRICK



DICK WHITTINGTON

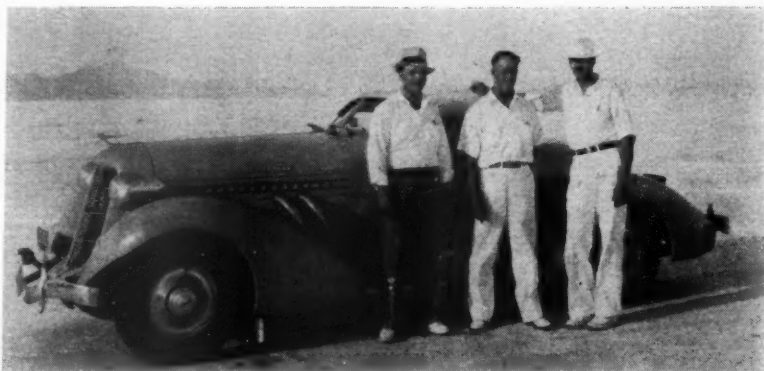
in the way of performance of the motor vehicles which are sold by dealers, any changes—mechanical or structural—which affect the performance of the motor vehicle would defeat this purpose and are not permitted except for" . . . a few minor exceptions and interpretations in regard to carburetor, fuel, axle ratio, compression ratio, wheels, tops and windshields. Examples are: (a) "A change in size of carburetor jet is permitted, providing the carburetor does not contain adjustment means to accomplish the same purpose." (b) "Any fuel regularly on sale to the public." (c) "Any axle or gear ratio may be used provided it is regularly catalogued

and offered as an option." (d) "Any compression ratio may be used provided it is regularly catalogued and offered as an option to all buyers. Any tolerance from the compression ratio nominated must lie within \pm five per cent." "Stripped" stock car chassis are not allowed.

Existing official American stock car records which have been established under the rules and sanctions of the Contest Board of the AAA, but including only those for the standing kilometer, standing mile, flying kilometer and flying mile, are shown in the accompanying table.

ALL-TIME Open Car (supercharged) record was set by Ab Jenkins in 1935 with the flying kilometer at 105.05 mph in Auburn Speedster (right)

EDDIE MILLER set record in 1932 for unsupercharged open cars when he turned the flying mile at 100.77 mph in Auburn Speedster (bottom)

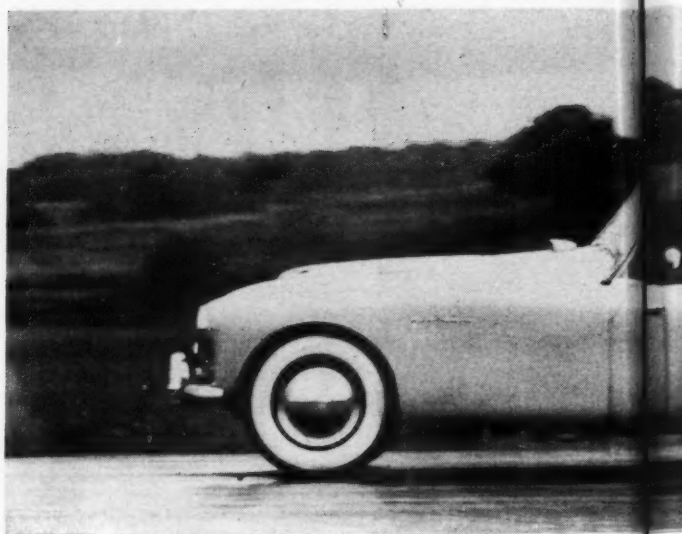


BILL SHIPLER



PROVING GROUND SHAKEDOWN OF THE NASH-HEALEY

By Dick Van Osten



FRONT VIEW of car shows low chassis. Nash-Healey handles well, has plenty of reserve power



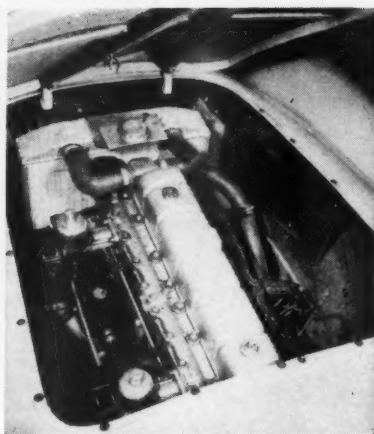
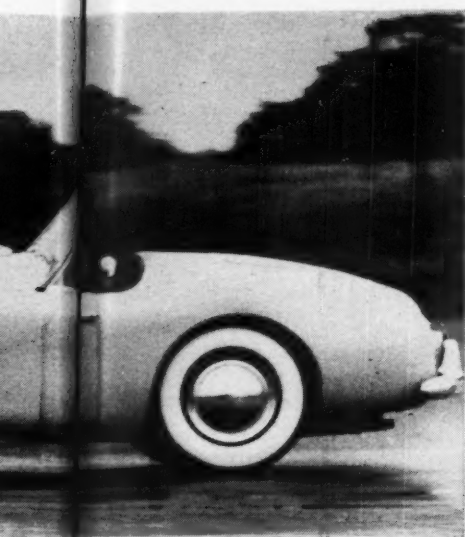
POSITION OF accelerator and gear shift lever is clearly shown here. Shifting is smooth and positive with short lever. Accelerator poorly located for quick action. Front seat accommodates three

WHEN WALT WORON, MOTOR TREND's Editor, returned from his annual pilgrimage to Detroit and points east, he had driven the Nash-Healey and suggested that we obtain the car for a Sports Trial. None being available on the west coast, I flew to Chicago to meet Bill Haworth, Director of Public Relations for Nash Motors. We drove to Kenosha, the Nash home plant, and out to the proving ground under threatening skies that finally broke open with the usual Wisconsin unpredictability. There went our Sports Trial!

The usual comprehensive tests of acceleration, braking, and top speed could have been performed under existing conditions but I felt that it would not produce a true picture. It's pretty hard to bang a sports car around on wet pavement and come up with any statistics that make sense. However, here are a few driving impressions gleaned on the outer track of the Nash proving grounds.

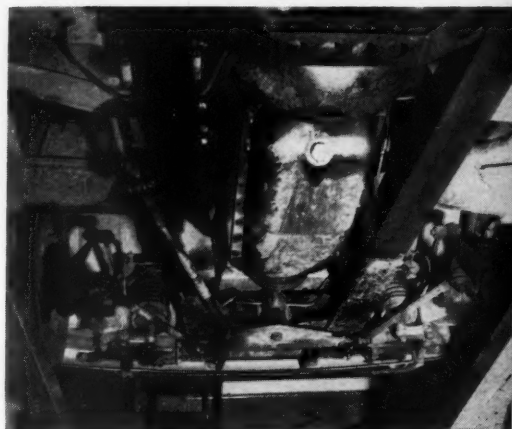
I like the Nash-Healey! Nash Motors has a potential success on its hands after a few more bugs have been worked out. At present, teething troubles are very much in evidence. The original radiator did not cool the engine properly and is being replaced by a larger capacity core. Trouble has also been experienced with gear ratios, not in the transmission, but trying to find an all-around rear end gearing. Many other details have provided problems for the combined engineering staffs of Nash and Healey. All in all, it is somewhat surprising that the two firms have not encountered more difficulties while trying to coordinate their problems over 3000 miles of land and water.

The item that left the best impression with me was the low speed torque. You can lug the car down to eight or 10 mph, kick it to the floor, and off it goes with no strain. This torque feature is one much



TWO BRITISH SU carburetors and 8:1 head are only modifications to 234.8 cu. in. Ambassador engine. Some competition versions in Europe have higher compression ratio and reground high-overlap camshaft giving claimed 125 mph

UNUSUAL STEERING arrangement is provided by the laterally located plate actuating two short tie rods, one to each front wheel. Front suspension is coil spring trailing link, rear has coil springs with substantial torque tube drive



demanding by the let's-not-have-to-shift American driver. Couple this with a power to weight ratio of 20.8:1 and you can see why the Nash-Healey 0-60 acceleration figures are in the under 10 second bracket. The best run I was able to get on a short stretch of dry pavement was 9.5 seconds, just barely dropping into high at 60 mph. In its present trim, the car is good for around 105 mph top. With a fully modified engine, the windshield removed, a belly pan and tarp, a figure of 125 mph has been claimed.

For fast cruising with an American engine, the Borg-Warner overdrive is a natural. I liked the idea of the positive horn ring control rather than pushing the accelerator through the floorboard trying to find a solenoid switch. The 4:1 rear axle ratio brings the overdrive gearing down to earth providing plenty of power

without continual downshifts to conventional.

The Nash-Healey rides far better than the average sports car without any apparent ill effect upon handling qualities. The front end goes and stays wherever you put it! The car that I drove would have handled a lot better if the steering wheel had been a little more resistant to movement. Until I had become familiar with this particular set-up, I had a tendency to oversteer, a liability that is not inherent in the design but did provide two or three interesting seconds on the wet Nash track. Tire clearance is being increased as the prototypes have a tendency to rub the wheel wells over choppy surfaces. This is typical of the very low chassis. The front sway bar clears a level road with only six inches to the good, the gas tank has a seven to eight in. clearance,

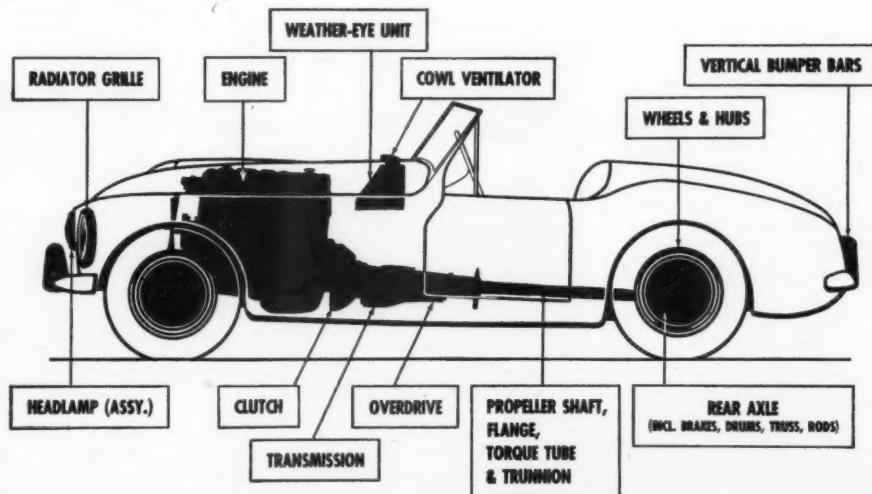
and the muffler only five!

The top folds completely out of sight behind the seat when not in use. Basically designed as a three-seater, the car has a fold-down armrest for use when carrying two persons. The leather upholstery is typically British as is the leather covered instrument panel. A normal complement of instruments is furnished, but I missed a tachometer during the acceleration trial. The windshield may be taken off for competition by the removal of the eight attaching screws, but the quarter windows remain fixed.

There are several other features that I would like to see the Nash factory change. The position of the accelerator between the clutch and brake pedals is almost impossible for anyone wearing over a 5AAAA shoe. Possibly the glass windows

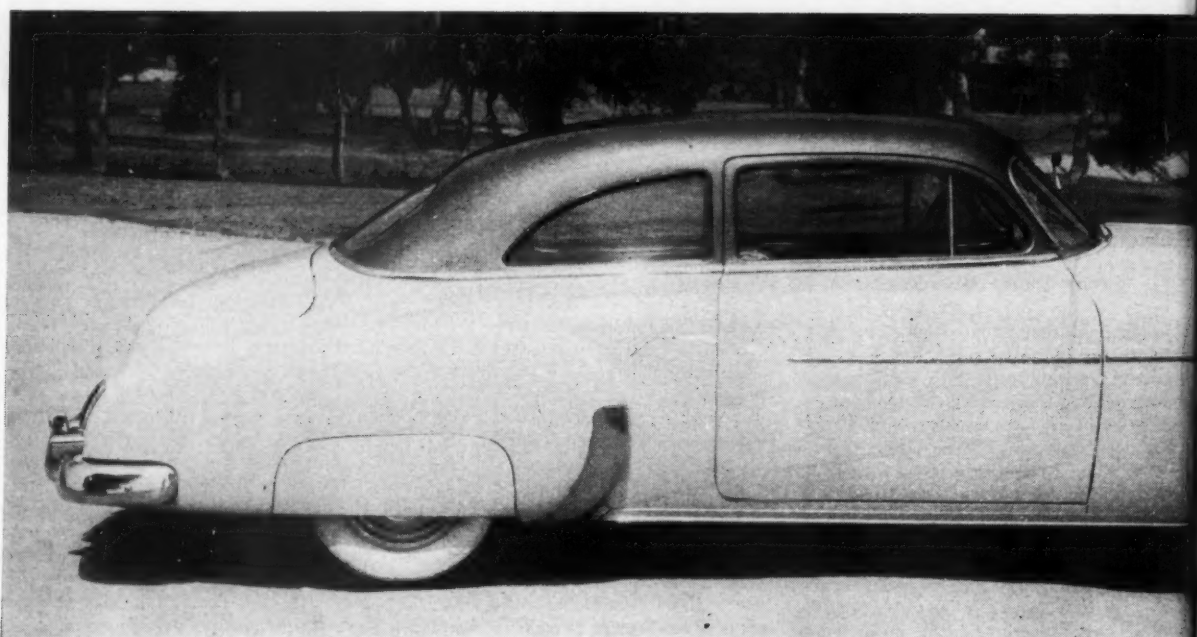
(Continued on page forty-five)

ALL PARTS listed in this diagram are Nash built. Other components are made by Healy



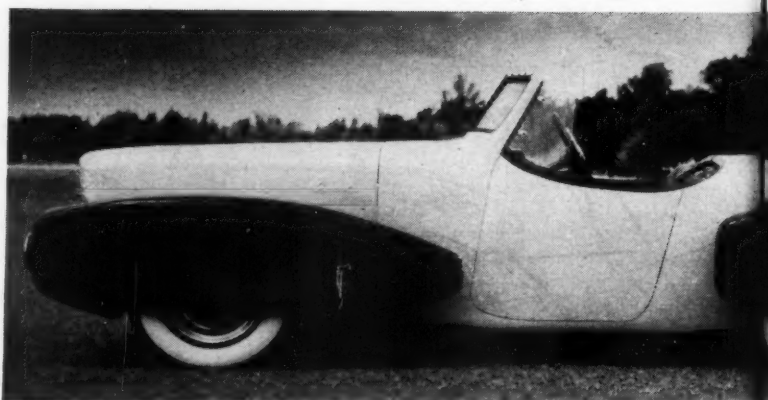
Customs

COAST TO COAST



EDWARDS

SOMETHING DIFFERENT in the way of custom cars (right), based on a 1949 Willys Jeepster chassis. Built by Doray, Inc., Miami Springs, Florida, everything from the radiator to the overdrive is now 1949 Ford. The front wheel skirts break just aft of the wheel to permit a full turning radius. The modified engine uses Edelbrock equipment. Total weight is 2150 lbs.



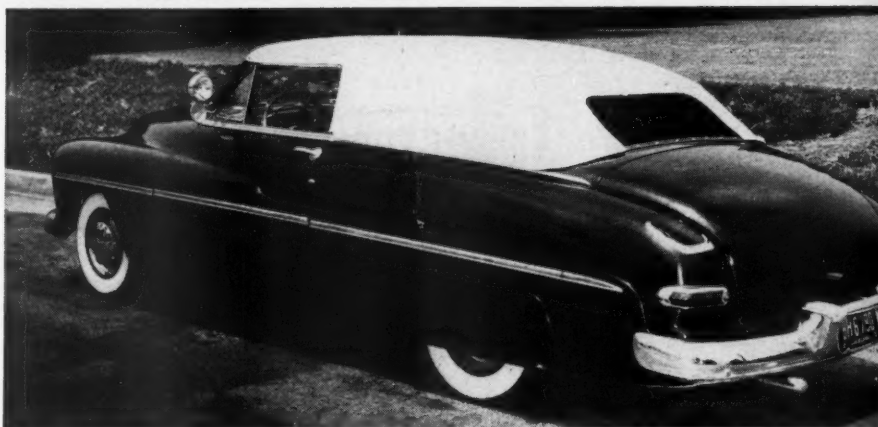
JACK CANSLER

TEABERRY RED fender (right). A further carry of the calfskin upholstery. The other

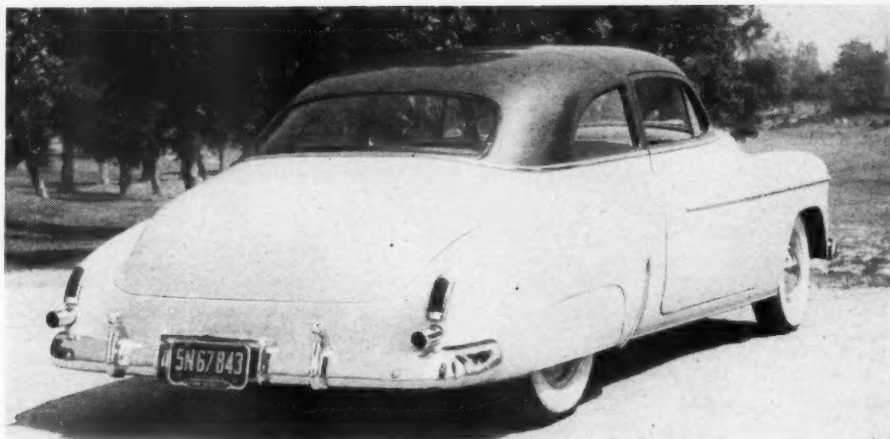
Motor Trend

FROM SAN Francisco comes this customized '49 Mercury (left). Owned by Bob Roy, it features a '51 Cadillac grille, dechromed nose. Engine is '49 Mercury with 9:1 Edelbrock heads, manifold, Harman and Collins cam, stock bore with 1/8 inch stroke. All the upholstery was done by Bob in red and white grained plastic

HYDRAULICALLY OPERATED rear deck is also dechromed (right). The top by Hall of Oakland, California, is a pebble grain white leatherette in sharp contrast to the black lacquer paint

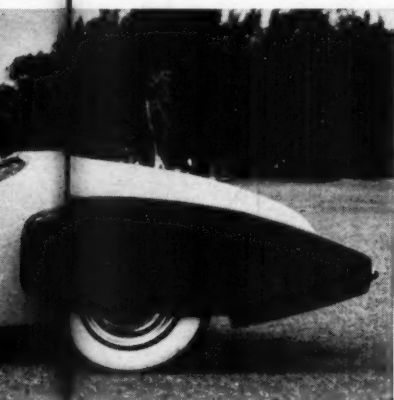


E. RICKMAN



DUAL EXHAUST pipes are routed through rear fenders above bumper. Not shown in this photo but a further compliment to the clean lines of this car was the addition of a one piece windshield

ORIGINALLY A 1949 two-door Fleetline Chevy (left), the body was removed and replaced with a Styline two-door body shell. Seven months and three days later the purple and yellow car of Spencer Murray was completed. All body work including cutting the top three inches and removal of quarter-window drip moulding was done at Links Custom Shop, Glendale, California



fender contrast nicely with the light gray body
er carry of this color scheme is found in the red
ery. Whether folds or is completely removable



JAGUAR VICTORIOUS AT *LE MANS*



DRIVERS SCRAMBLE toward diagonally parked cars at start. Nearest camera is Cad-Allard of Tom Cole, Sidney Allard; next are Cunninghams

PHOTOS BY THE AUTOCAR (LONDON) AND A. PRUVOST (LE MANS)



BATTERED, BUT still a winner, the beautiful little Monopole was absolute winner on handicap; engine has just 37.47 cu. ins. displacement

THREE CUNNINGHAMS carried blue and white American colors, two were eliminated by crashes. One car finished 18th, won its class

THE 1951 running of *Les 24 Heures du Mans* gives us, as always, results which constitute a Who's Who of Automotive Performance. This classic test for sports and production cars, this continuous 24 hours of flat-out operation, tells the world better than any other sporting or commercial competition precisely where most cars stand, both in terms of speed and of reliability. Driving skill is a fairly important factor, to be sure. But the really vital element is a car's ability to scream on all day and all night at or close to peak stress . . . and to keep going. Hence the very accurate naming of the event: the Le Mans Grand Prix of Endurance.

Jaguar—the most forward-looking manufacturer in England—did a remarkable thing. They selected this most grueling of tests for the first public appearance of the new XK 120C, a much-modified version of Postwar's most successful competition machine, the reliable XK. This new car, whose development can't possibly compare with the hoary and reasonably mighty 4½ litre Talbot (a Grand Prix racer with fenders, etc. added, to make it a "sports

car"), actually trimmed the Talbot by 77.8 miles, to win outright this classic proof of endurance and speed.

Third place was taken by Aston Martin in a demonstration of thoroughbred performance that has few equals. They wired us, "ASTON MARTIN AGAIN DEMONSTRATES ABSOLUTE RELIABILITY AT 1951 LE MANS. FIVE CARS STARTED, FIVE CARS FINISHED. TOOK FIRST, SECOND, THIRD IN THREE LITRE CLASS. FOR SECOND YEAR BROKE THREE LITRE DISTANCE RECORD." This should erase any doubt concerning the excellence of the cars built by David Brown.

The two-litre, (122 cu. in.), V-6 Lancia, in the hands of MOTOR TREND European correspondent John Lurani, aided by G. Bracco, won its class. Although the Lancia is an out-and-out touring machine, it dusted off all of its high-performance sports car competition, proof that Lancia's second place in this year's Mille Miglia (ahead of several Ferraris) was no fluke.

Our Anglo-American Nash-Healey followed up its fine Le Mans performance in 1950 with sixth place this year—only bested by the formidable marks of Jaguar, Talbot, and Aston Martin.

According to John Bentley, this was the fate of blue-and-white American hopes, the three Cunninghams: Drivers John Fitch and Phil Walters ran car No. Four in second place until the twentieth hour and there was every promise of Briggs Cunningham's sporting embassy returning home triumphant. But a dropped valve was followed by failure of a rod bearing. It took almost two hours of feverish pit activity to repair the damage. Car Four went back into the race and—heroically enough—finished 18th! Not so fortunate were the other two machines. George Huntoon (co-driver with Briggs himself) spun out at the famous Arnages S bend, doing



Twenty-eight

Motor Trend

RESULTS BY DISTANCE

MAKE	DISP. CU. INS.	DRIVERS	DISTANCE IN MILES
Jaguar	209.99	Walker-Whitehead	2243.9
Talbot	273.58	Meyrat-Mairesse	2166.1
Aston Martin	157.44	Macklin-Thompson	2160.5
Talbot	273.58	Levegh-Marchand	2152.0
Aston Martin	157.44	Abecassis-Shawe-Taylor	2143.3
Nash-Healey	234.46	Rolt-Hamilton	2143.0
Aston Martin	157.44	Parnell-Hampshire	2113.7
Ferrari	250.26	Chinetti-Lucas	2068.1
Ferrari	156.41	Mahe-Peron	2049.0
Aston Martin	157.44	Mann-Goodall	1986.1
Jaguar	209.99	Lawrie-Waller	1980.5
Lancia	121.50	Lurani-Bracco	1971.3
Aston Martin	157.44	Clark-Scott	1958.6
Frazer-Nash	120.40	Winterbottom-Marshall	1946.3
Ferrari	121.74	Mme. Simon-Miss Haig	1941.6
Ferrari	156.41	Moran-Cornacchia	1913.3
Talbot	273.58	Chambas-Morel	1900.5
Cunningham	331.12	Walters-Fitch	1875.4
Frazer-Nash	120.40	Stoop-Wilson	1827.1
Porsche	66.27	Veuillet-Mauche	1746.4
Panhard D. B.	52.54	Bonnet-Bayol	1727.8
Bentley	259.54	Hay-Clarke	1718.4
Jowett	90.68	Becquart-Wilkins	1707.6
Renault	45.59	Landon-Briat	1658.3
Monopole	37.47	de Montremy-Hemard	1633.7
Dyna-Panhard	37.29	Gaillard-Chancel	1501.1

RESULTS BY CLASSES

CLASS B: 305.19 to 488.20 cu. in.—5001 to 8000 cc

1. Cunningham—77.95 mph average—Walters-Fitch

CLASS C: 183.14 to 305.13 cu. in.—3001 to 5000 cc

1. Jaguar—93.50 mph average—Walker-Whitehead

2. Talbot—Meyrat-Mairesse

3. Talbot—Levegh-Marchand

4. Nash-Healey—Rolt-Hamilton

5. Ferrari—Chinetti-Lucas

6. Jaguar—Lawrie-Waller

7. Talbot—Chambas-Morel

8. Bentley—Hay-Clarke

CLASS D: 122.11 to 183.08 cu. in.—2001 to 3000 cc

1. Aston Martin—90.02 mph average—Macklin-Thompson

2. Aston Martin—Abecassis-Shawe-Taylor

3. Aston Martin—Parnell-Hampshire

4. Ferrari—Mahe-Peron

5. Aston Martin—Mann-Goodall

6. Aston Martin—Clark-Scott

7. Ferrari—Moran-Cornacchia

CLASS E: 91.60 to 122.05 cu. in.—1501 to 2000 cc

1. Lancia—82.14 mph average—Lurani-Bracco

2. Frazer-Nash—Winterbottom-Marshall

3. Ferrari—Mme Simon-Miss Haig

4. Frazer-Nash—Stoop-Wilson

CLASS F: 67.19 to 91.54 cu. in.—1101 to 1500 cc

1. Jowett—71.15 mph average—Becquart-Wilkins

CLASS G: 45.83 to 67.13 cu. in.—751 to 1100 cc

1. Porsche—73.60 mph average—Veuillet-Mauche

2. Panhard D.B.—Bonnet-Bayol

CLASS H: 30.57 to 45.77 cu. in.—501 to 750 cc

1. Renault—69.10 mph average—Landon-Briat

2. Monopole—de Montremy-Hemard

3. Dyna-Panhard—Gaillard-Chancel

4. Renault—Lecat-Senftleben

5. Callisto-Colas-Schollmann

6. Renault—Vernet-Poirard

7. Panhard D.B.—Arnaud-Pons

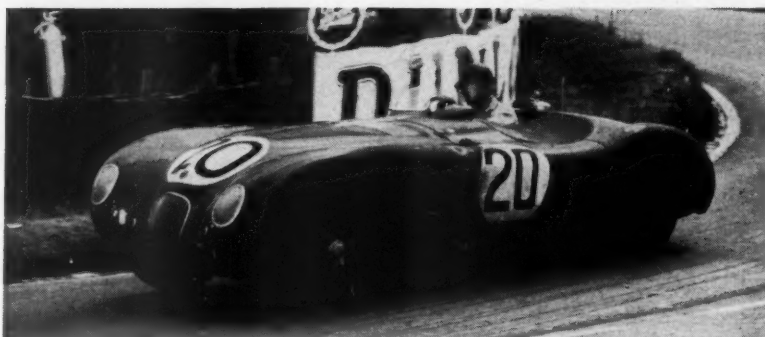
RESULTS BY FORMULA HANDICAP

	POINTS
1. Monopole—de Montremy, Hemard	1376
2. Dyna-Panhard—Gaillard, Chancel	1351
3. Jaguar—Walker, Whitehead	1326
4. Aston Martin—Macklin, Thompson	1316
5. Panhard D.B.—Bonnet, Bayol	1308
6. Renault—Landon, Briat	1306
7. Aston Martin—Abecassis, Shawe-Taylor	1306
8. Callisto—Colas, Schollmann	1297
9. Aston Martin—Parnell, Hampshire	1288
10. Nash-Healey—Rolt, Hamilton	1254
11. Porsche—Veuillet, Mauche	1253
12. Talbot—Meyrat, Mairesse	1253
13. Ferrari—Mahe, Peron	1249
14. Talbot—Levegh, Marchand	1245
15. Lancia—Comte Lurani, Bracco	1243
16. Frazer-Nash—Winterbottom, Marshall	1231
17. Ferrari—Mme Simon, Miss Haig	1224
18. Renault—Lecat, Senftleben	1220
19. Aston Martin—Mann, Goodall	1210
20. Ferrari—Chinetti, Lucas	1204
21. Renault—Vernet, Poirard	1198
22. Aston Martin—Clark, Scott	1193
23. D.B.—Arnaud, Pons	1187
24. Jaguar—Lawrie, Waller	1170
25. Ferrari—Moran, Cornacchia	1167
26. Frazer-Nash—Stoop, Wilson	1154
27. Jowett—Becquart, Wilkins	1129
28. Talbot—Chambas, Morel	1099

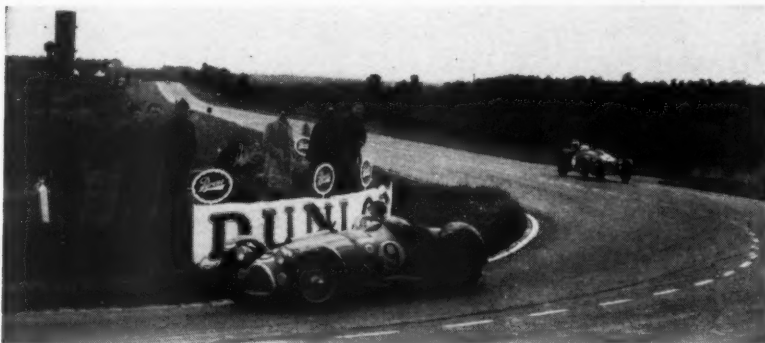
sufficient damage to his car's steering to put the machine out of the race. George Rand shared car Number Two with Fred

ALL THROUGH the night, the stands remain packed as the 24-Hour Grand Prix d'Endurance grinds on. Camera records cars' headlight trails

September 1951



WINNING JAGUAR of P. D. C. Walker and P. N. Whitehead powering out of Mulsonne. Car has .96 in. wheelbase, develops 190 bhp, weighs 2100 lbs., employs torsion bars all around



THE TALBOT of P. Meyrat and G. Mairesse, winner of second place, leads Cad-Allard of Hitchings and Reece. Talbot covered 2167 miles

Wacker, Jr. and Rand, shooting along at 105 mph, spun three times on the uphill bend past the pits, hit the crash wall, damaged the car badly, retired.

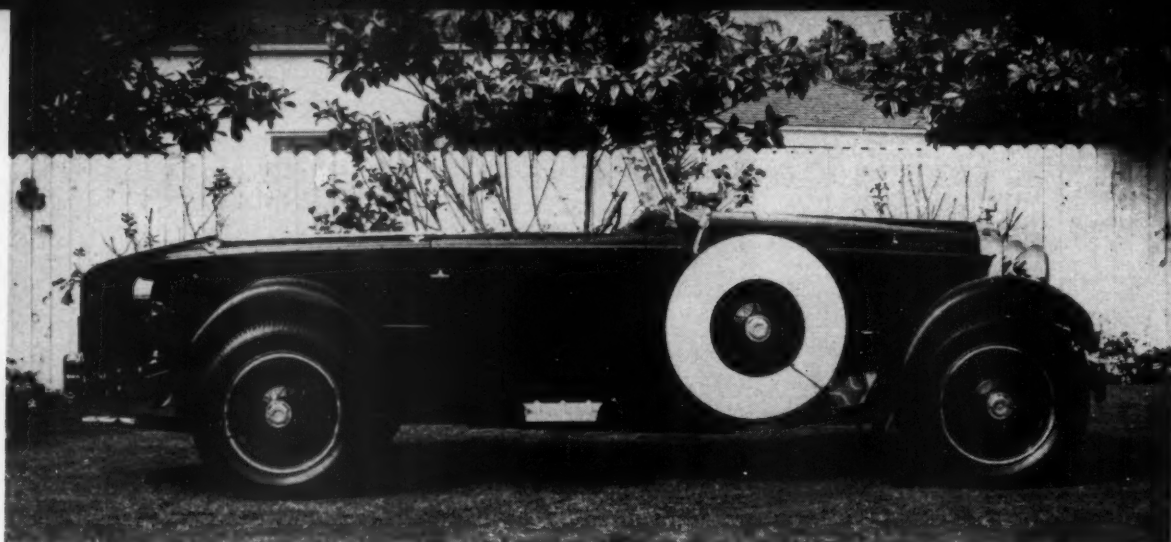
The Cad-Allards, another Anglo-American effort for which high hopes had been held, had rotten luck. Car Number One, driven by Tom Cole and Sidney Allard, went out with gearbox failure and car No. Two retired with rear axle trouble.

This year's winning Jaguar averaged

93.5 mph, covered 82.8 miles more than last year's victorious Talbot driven by Louis Rosier and his son who then averaged 89.7 mph. The XK 120C differs from its famous forerunner in many important ways. Our information the car is sketchy, but this is it: weight is about 700 lbs. less than that of the XK, wheelbase is .96 ins. and Rudge wheels are used. Engine is basically the same but probably uses 9:1 heads and high-lift camshafts. Frame is tubular, the body lower and more streamlined than the XK. The XK made a reputation as a competition machine. What will Jaguar's tailored-for-racing car do?

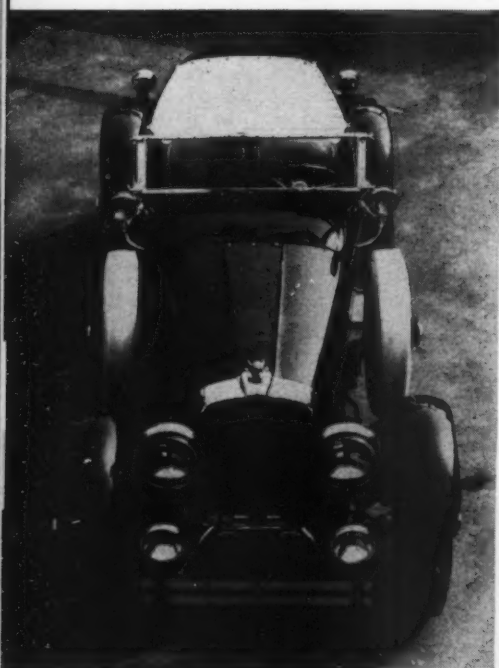


Twenty-nine



Stutz Four Passenger Speedster

by Kenneth Kincaid



RYAN-LITE headlamps were a Stutz feature for many years. Windshield is reinforced by strands of piano wire, perhaps world's first safety glass

SPLENDID STERN of Stutz is beautifully executed nicely balanced by dual lamps. Lid of rear deck opens for stowage of top, curtains

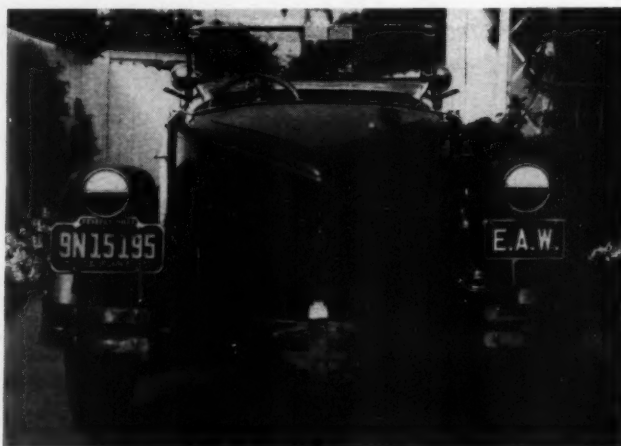
SPECTACULAR, SCARCE, strictly stock, virginal describe this magnificent red-and-black 1927 Stutz owned by Elliott Wiener of Pacific Palisades, California. Seventeen of these fantastic bodies were supplied by the factory and it is doubtful that any other specimens survive anywhere today.

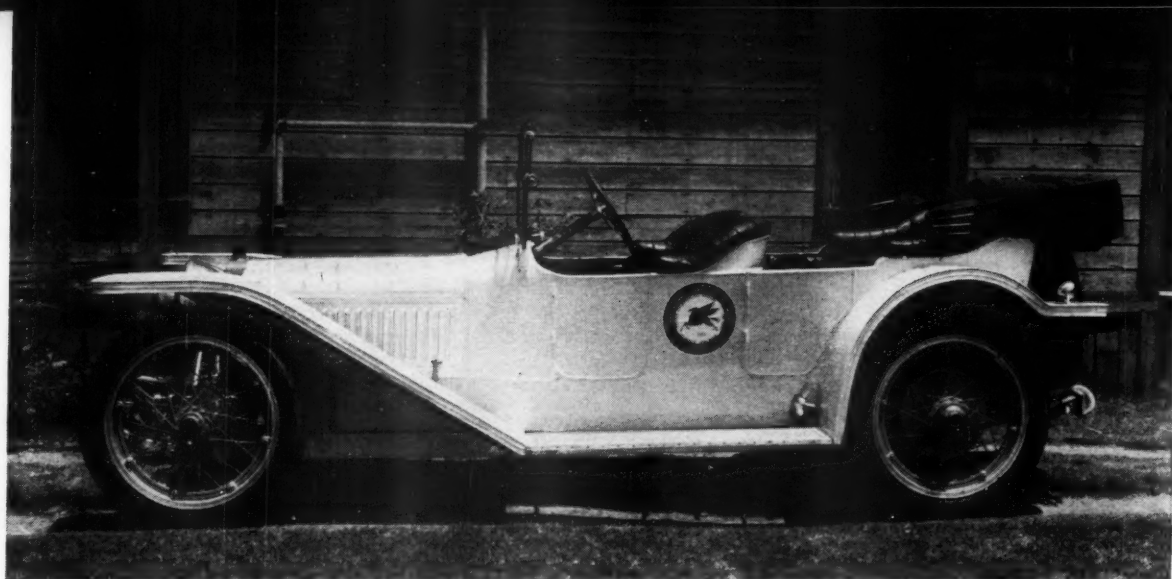
This racy machine was the sole transportation—oddly enough—of a college professor. He drove it from home to school daily, with top and side curtains always up. When he retired, he turned the car over to a museum which, having little room for such gems, eventually put the Stutz up for sale and Mr. Wiener entered

the scene with a gleam in his eye.

The AA-Series engine is a 16-valve straight eight which uses a single, chain-driven, overhead camshaft. Displacement of 287 cu. ins. derives from a $3\frac{3}{16} \times 4\frac{1}{2}$ in. bore and stroke, compression ratio is 4.8:1 and 92 bhp is pulled at 3200 rpm. Fuel consumption is a consistent 16 mpg. on the highway. Wheelbase is 131 ins.

These chassis were not without their faults, but will always hold their place among the world's well-made, reliable machines. Fitted with such amazing coachwork as that shown here, the ensemble can only be described as being enormously, beautifully unique.





Low Down Car

THE AMERICAN UNDERSLUNG WAS MADE TO HUG THE ROAD

Text and Photos by Robert Lee Behme

LIKE EARLY jazz, the American Underslung car was low down. Standing squat on its frame, slung low under the axles, its manufacturers, the American Motor Car Company of Indianapolis, Indiana boasted that "At every speed, it is the safest car in America."

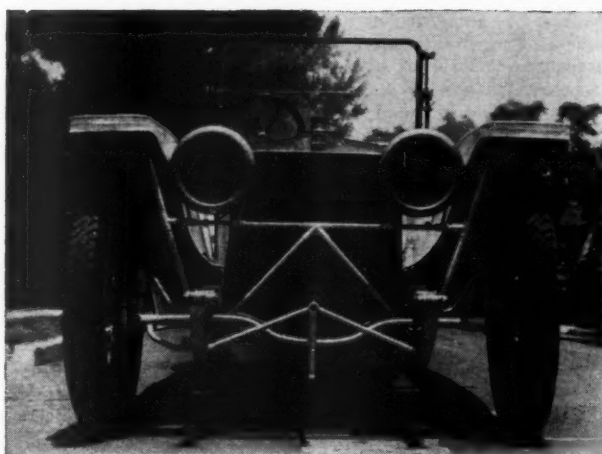
"Even at 80 you can't turn 'em over," the early owners exulted. "They hug the road like a 'coon skin coat."

The car shown in these pictures is a 1913, four passenger sports touring model with four speeds forward and a right hand drive. Engine is a six cylinder T-head. The shift lever is located inside the car while the brake lever is just outside the right door. The car sold for \$4,250 at the factory.

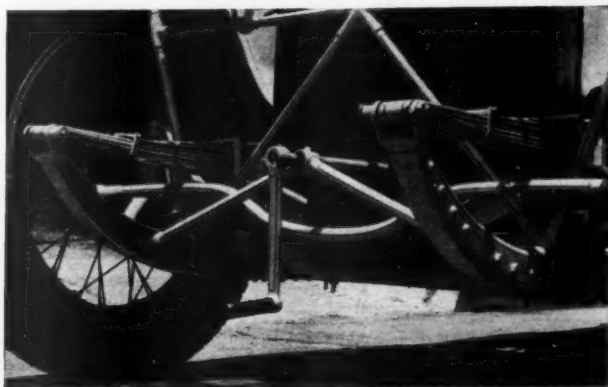
All models were made with a full floating rear end, sliding gear transmission, cone clutch and external brakes of the Timken pattern. It had huge, almost over-size, 40-in. pneumatic tires. The wheels were cut to 36x4½ because of a tire shortage. The original wire spokes and rims were kept on the car.

With over one hundred cars in his collection, the Underslung is nevertheless a favorite possession of owner Dr. George Shafer of San Bernardino, California.

"The lines are really low down," he says, "and it still makes music when it hums along the road."



EVERY INCH a piece of fine machinery, no attempt was made to conceal super-roadworthy American Underslung's rakish but functional vital parts



FANTASTICALLY SLINKY lines for a 1913 car were basically achieved by inverting frame and springs, carrying frame under axle, instead of over it

YOUR STAKE IN UNIFORMITY

NATION-WIDE CHAOS CAN BE CURED BY ADAPTION OF A UNIFORM VEHICLE CODE

by Eugene A. Jaderquist

IF YOU favor pavement power slides on crowded highways, any one of the 49 vehicle codes in effect in the United States classifies you as a reckless driver. It is a rating you richly deserve, and if you live long enough you will meet a judge who will make clear to you the fact that reckless driving is one of the cardinal sins of the road, along with drunken driving.

It is easy to convince the law-makers of the 48 states and the District of Columbia that flagrant disregard of the right of your fellow-driver to keep breathing is a major offense. And so uniformity has been forced on this important matter. But all fatal accidents are not caused by reckless or drunk drivers. Most of them are the result of little errors made at the wrong time. The great majority of accident injuries involve no major legal offenses. Accidents, it would seem, happen.

The man behind the wheel of an automobile—you, me, your wife, the old lady holding down the center lane at 10 mph—is a creature of habit. After years of driving, reactions to traffic situations become instinctive. The speed and accu-

acy of these reactions may save your life or mine.

Any reaction is the sum of experience and training. Both of these factors are based on the laws governing traffic in the state and city where you drive. If you're accustomed to speed by a pedestrian crossing an intersection, knowing that he is watching you and expecting you to do just that, a sudden, courteous stop might involve you in a costly accident with the car behind you. And you might find yourself liable for damages to his car.

Or, if you've been trained in the make-a-break-for-it left-turn tradition, a long wait for incoming cars at the intersection will snap the tempers of the drivers locked behind you. Each state and community has built up a set of driving customs that govern such behaviour. Within your own area, it is wisest to follow local practice.

But if you travel outside your state—and most MOTOR TREND readers like to vacation by automobile—you're moving into trouble when you cross state lines. The pedestrian in the next state may expect you to stop for him in an intersection. If you don't wait for a break in

traffic before making your left turn you'll find a Buick grille jammed into the side of your engine compartment. And if you don't signal for a right turn by raising your left forearm, a day of your vacation will be spent in traffic court.

Today, 25 years after the first Uniform Vehicle Code was presented to the 2nd National Conference on Street and Highway Safety in Washington, D.C., the vehicle codes of the various states still show surprisingly little uniformity. Resistance to the idea of consistent definitions of traffic behaviour from coast to coast has been great. In some states this may be traced to sheer ignorance of the existence of the Uniform Code; in others the legislative bodies have not seen the need for conformity; in still others, the police departments of the cities and the state highway police organization have objected to enactment of new or different statutes.

Another reason for the delay was suggested by an official of the California highway department. "Look," he said, "how can the highways of Kentucky permit more than 45-mph speeds? Why should Nevada bother to slap a speed limit on flat, desert highways?"

The Uniform Code suggests a speed limit of 50 mph on rural highways in the daytime, 45 mph at night. These, however, are *prima facie* limits, meaning that if the motorist can prove that he was not driving at a speed "greater than is reasonable and prudent under the conditions and having regard to the actual and potential hazards then existing" he is guilty of violating no law. But at speeds of over 50



mph, the burden of proof rests on the motorist.

One of the foremost authorities on the Uniform Code is J. Allen Davis, general counsel for the Automobile Club of Southern California and the man who has been charged with drafting the Uniform Code. Since 1926, the Committee on Laws and Ordinances has revised the Code regularly to keep abreast of engineering and highway changes. In one of his reports, Mr. Davis singles out a striking example to show the need for uniformity.

"Some of . . . the methods of giving hand and arm signals in the several states . . . might be characterized as fantastic. . . . Motorists must frequently make instantaneous determination of the intentions of other drivers and split-second decisions as to proper action to avoid collision."

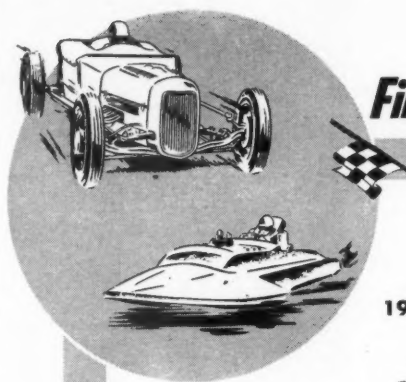
A few states (Maine is one) require no arm signals. Others specify that for any unusual movement the motorist should extend his left arm horizontally. Still others require that the driver point with his finger when he wants to turn left, or wave the vertical forearm back and forth to turn right, or rotate the hand to turn left, or . . . It doesn't take much imagination to guess the confusion that exists when a driver from one state carries his old habits over to another state.

Mr. Davis also suggests that President Truman's Highway Safety Conferences, the most recent of which concluded in June, 1951, may be the most effective way to publicize the existence of the Code. Once police, law-makers, citizens have read and understood the provisions of the Code, much opposition should vanish.

There is nothing startling or radical about the provisions of the Code. Originally it was based on custom, as reflected in the existing codes of the various states. The committee took special pains to avoid offending those ardent champions of states rights who look on anything coming from Washington as a message from the devil. That they succeeded is evidenced by the impressive list of endorsers and sponsors. Some of the largest are: American Automobile Association, American Transit Association, Association of American Railroads, Automobile Manufacturers Association, Chamber of Commerce, Association of Casualty and Surety Companies, National Safety Council. No organized group of any standing is on record as being against the Uniform Code.

This does not mean that the Code is perfect. In many cases, states have progressed beyond the minimum provisions and added new laws where necessary. California, for example, requires that pedestrians obey traffic signals and fines pedestrians for jaywalking. The Code only states that pedestrians must yield the right-of-way to automobiles proceeding in

(Continued on page thirty-seven)

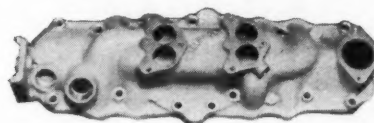


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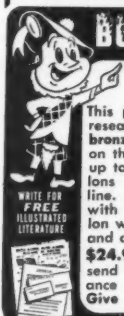
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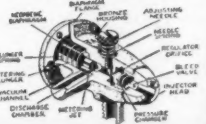
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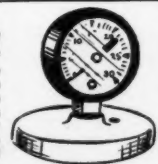
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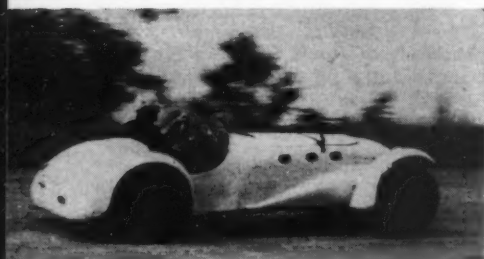
SPORTING SCENE

STUDEBAKER PLAYS HOST TO SCCA

ATTACK ON BURKE MOUNTAIN



PHOTOS BY JOHN GAHAGAN



FASTEST TIME of day was made by Hal Ullrich in a J-2 Ford-Allard. He averaged 103.8 mph for 12 laps in 36-mile South Bend Handicap

STUDEBAKER MEET

by John Gahagan

STUDEBAKER TEST drivers took the day off on Saturday, June 23, as members of four midwestern regions of the SCCA had another taste of high-speed motoring on the high banks of the three-mile Studebaker test track not far outside South Bend, Indiana.

More than a thousand enthusiasts were on hand for the second invitational meet staged by the Chicago Region of the SCCA in hearty cooperation with the Studebaker Corporation. The Chicago lads were responsible for the scheduling of

events. These consisted of qualifying trials followed by two heats of 15 miles each for cars of under 1500 cc, a skillful driving test for the more conservative clan and the windup, the "South Bend Handicap," open to all qualifiers over 1500 cc and to the fastest half of the below-1500 cc contestants.

The first heat of the small car class brought together the fastest qualifiers and featured Paul Farago's beautiful handwrought Fiat roadster, Bob Keller's slightly tired but still aggressive Fiat aerodynamic coupe, the Donker-driven Jowett Javelin, a car which has never hit its

stride in the USA despite much continental success. Elsewhere in the ten-car field were a trio of Simca Huits and MGs of TC and TD vintage.

It must be said that racing in this heat was excellent. Farago and Keller drove with immense verve and determination. Donker's Javelin retired, still leaving the Jowett reputation unproved, while Lou Turco tried hard to separate his Huit from the rest of the chaff but was finally overcome by Carlson in his sprightly MG TD. Farago emerged the winner in a close decision over Keller at a commendable 88 mph for the 15 miles. Carlson gained an



CARLSON (MG TD) was fourth place winner in the final event, leads here in qualifying race



DUEL BETWEEN Turco's Simca and Farago's Fiat was a high spot of the South Bend Handicap Race

Thirty-four

extremely well-deserved third.

After the Studebaker buffet luncheon interval (over 500 participated in this event), the second small car heat saw Max Goldman of Detroit in his MG TD an easy winner over Lance (Detroit) in a TC and Burns (Chicago) in a Simca. The Lance-Burns duel was truly epic and the field, though small, hung together very nicely to the finish. Goldman averaged 81 mph for the 5 laps.

A skillful driving test for both sexes consumed the interval between the heat races and the final. Most interesting was the driver reaction to the Studebaker splash tub which was made a part of the course. Wettest and winningest midst

Motor Trend

males was Phil Dorough of Chicago. His female counterpart was Jean West, also of Chicago.

The South Bend Handicap provided a proper climax to the entire schedule. The event was so arranged that the larger class (Allards, Alfas, XKs, etc.) gave three laps (15 miles) to the under-1500 cc class, and one lap to the intermediate types, in which there was only one entry, Jim Simpson's Healy. The cars were to cover 12, 11 and nine laps, depending upon displacement. In addition, pit stops were obligatory. Those equipped with wire Rudge-type wheels were required to change one wheel, those without were made to change two spark plugs.

The big car qualifying sessions were lively, indeed. Several of the men were no longer boys with speeds over or just below the 100 mark. Ullrich, Gougelman (XK 120), Wahl (XK 120), Cuccio (Alfa-Romeo 2.3 blown), Briggs (XK 120) turned in very crisp runs. Simpson's run also showed promise for the handicap.

Under way, Ullrich easily fled from the horde of XKs from the second lap on and the Chicago mechanic maintained a blazing pace to set FTD at 103.8 mph for the 36 miles. This included a 30-second pit stop and Ullrich was timed over several laps at nearly 110 mph.

High spot, competition-wise, in the final was the Farago-Turco tussle in which Farago's Fiat barely edged the well-driven Simca of Turco after being led for several laps. Simpson in the ex-Kimberly Healy Silverstone returned the winner on handicap at a steady 91 mph.

After Simpson (on handicap) came: Farago (Fiat) 78 mph; Turco (Simca) 77.8 mph; Carlson (MG TD) no time.

By class, the standings found Ullrich an easy winner at 103.8 mph; Mike Wahl led the XK contingent home followed by Paul Gougelman, Steve Briggs and Nate Swift; Simpson, Healy at 91 mph (only car entered in class); and among the wee ones, Farago came through at 78 mph, followed by Turco, Carlson, and Rees Makin (Simca).

If the club organization bogged a bit here and there during the afternoon in getting cars to the line, the Studebaker planning was above reproach. Courtesy cars were available for the long trek to the "Open House" area, the luncheon was a welcome and appetizing treat, and every convenience was at hand for the hundreds of guests. Nor must it be forgotten that Stude's invitation gave many an amateur a chance to learn the art of high speed travelling in the safest possible manner on a course that would test professionals.

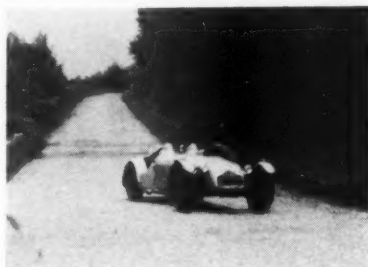
BURKE MOUNTAIN CLIMB

by John Bentley

FOLLOWING AN informal one-day Rally won by Pete and Mrs. Crocker (XK 120), the New England Region of

the SCCA staged a dilly of a hillclimb, Sunday, June 24, in Darling State Forest Park near Lyndonville, Vermont. For those enthusiasts who like their hairpins plentiful and their grades clifflike, Burke Mountain is the dream spot.

Starting at the Forest Park Gate, the 1.75-mile climb has five hairpins and five sharp curves on gradients between 12 and 26 per cent, in a beautiful setting of birch, maple and wildflowers. Paved with asphalt all the way up, and therefore kind to tires, the road begins at 1900 ft. and the summit is reached at 3267 ft.—a rise of over 1350 ft. in less than two miles. Seen from the start, Burke Mountain is garlanded in cloud, but a plateau at the peak offers a



ABOTT LAHTI

BOB WILDER in his J2 Ford-Allard, conquering Burke Mountain in 3:22.6. This stretch of road was rare spot where top gear could be used

magnificent view of Vermont for many hundreds of miles around.

FTD was made by Bob Wilder in his J2 Ford-Allard. Bob made only one run and his time of 3:22.6 was all the more remarkable on this exacting course.

Nearly all drivers showed big improvements between first and second runs, the outstanding example being Cass Palmieri (blown MG TC) who bettered his time by 28 secs. on the second attempt! Only casualty was Preston Gray's K2 Cad-Allard with coolant trouble.

The representative field included five XK 120s, three Allards, a Porsche, three MGs, two Duesenbergs and one each of BMW, SS 100, Jupiter and La Salle. Frank Berry's unwieldy but powerful vintage La Salle clocked 4:36.4 on its only run, beating the first attempts of several modern sports cars.

Second FTD went to Jim Hoe, whose rakish four-carb Duesenberg, stripped of all non-essentials, zoomed to the top in 3:25.8 and must have been quite a packet on those hairpins. Paul Timmins in Loring's K2 Allard clocked third fastest with 3:31.6 while the best of the XKs was Phil Reed's car in 3:35.3 which took overall fourth and won Class 3 (3-4000 cc). Class 5 (1500-1950 cc) was taken by this writer's blown Mark II MG in 4:02, with Palmieri's TC MG second (4.08) and Bill Kemp's beautiful white 328 BMW third (5:02). Class 4 (1000-1500 cc) went to Dexter Coffin's stunning red Jupiter in

4:42.2, with Cdr. H. F. McHugh's Porsche second (5:04) and Fred Sinon's stock but sprightly MG TD came in third at 5:12.9.

Burke Mountain's steepest grade, a quarter-mile from the start, is something to be experienced. You nose clockwise around the 180° hairpin and are suddenly confronted by what looks like a leaning wall of asphalt. Only it's the road and you have it all to yourself, which explains the relatively slow times. Most of the going is in second gear, yet this climb demands more driving skill than any other in the East.

Lyndonville's enthusiastic Chamber of Commerce also offers hope for a good round-the-houses road course in 1952, when repaving is completed. Burke Mountain was worth every inch of the 350-mile drive from New York.

CATALINA AND MEXICO

The very competition-minded California Sports Car Club announces two exciting events for this fall: a round-the-houses race at Avalon, on Catalina Island and a point-to-point road race in Lower California. The Catalina race should be a truly unique event and is tentatively scheduled for Oct. 14. The Mexican race will be run from Ensenada, 76 miles south to Arroyo Seco and return, through fine, mountainous country, but on an excellent paved surface. Not only will this race be open to all classes of sports cars, one of each make of American hardtop or convertible will also be admitted. Contact the club at 9176 Sunset Blvd., Los Angeles, Calif.

CALENDAR OF EVENTS

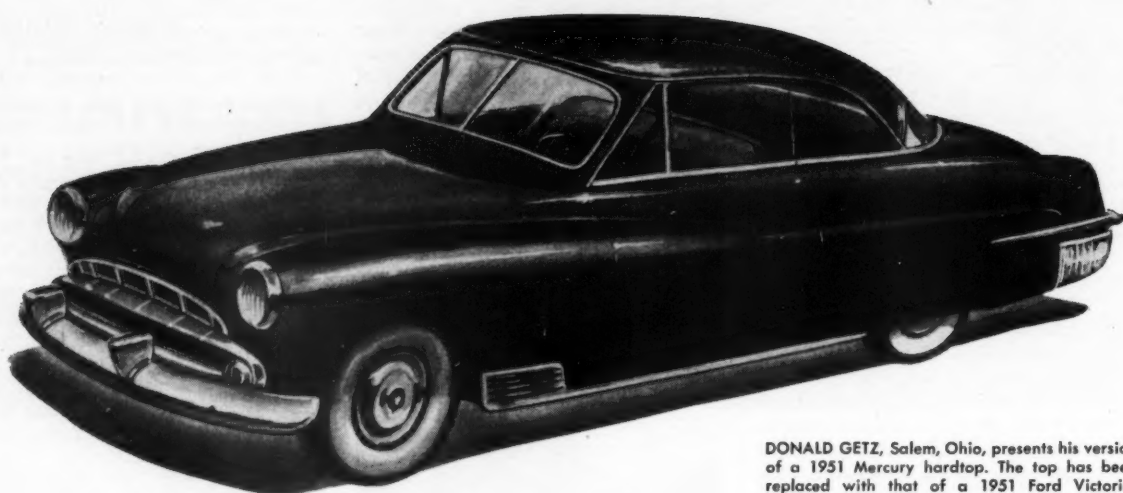
August 25-26 Elkhart Lake Road Race
Elkhart Lake, Wis.
September 15 Watkins Glen Road Race
Watkins Glen, N.Y.
October 7 Catalina Island Road Race
Calif. Sports Car Club (Tentative)
Sandberg Hill Climb, So. Cal. region
SCCA (open)
November 11 Ensenada Point to Point Road Race
Ensenada, Mexico, CSCC



ABOTT LAHTI

JIM HOE, second fastest time of day, positions the big Duesenberg before tackling the Park Road hairpin—his remarkably good time: 3:25.8

Thirty-five



DONALD GETZ, Salem, Ohio, presents his version of a 1951 Mercury hardtop. The top has been replaced with that of a 1951 Ford Victoria. Ford tail lights are also used on the rear as is a Dodge bumper-guard connection with the exhausts extending through the ends. Minus bumper-guards, late Packard bumpers are used

What's YOUR Idea

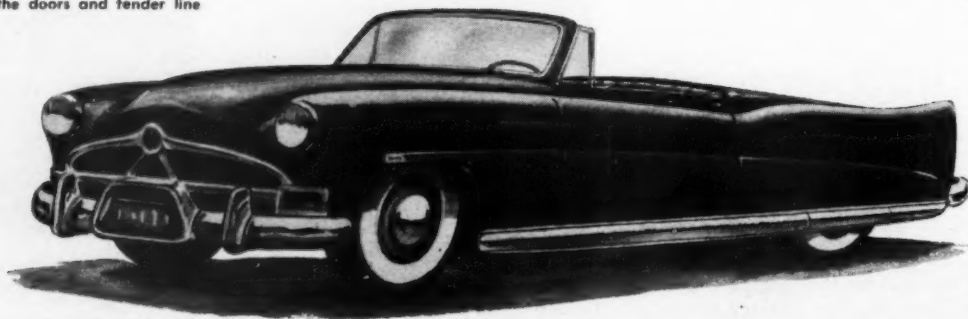
REDRAWN FROM READERS' SUGGESTIONS

by Al Crundall

THIS 1951 CHRYSLER would be sectioned four inches with the rear fenders remaining in the original position but the rear deck lowered. The top would not be lowered, a Mercury grille would be installed, and the parking and tail lights built into the front and rear bumper guards. Designed by John Phillips, Brooklyn, N.Y.



CADILLAC REAR FENDERS with the tail lights removed are the idea of Donald Stolanoff, Lewistown, Pennsylvania. His customized 1951 Hudson Hornet has push-button doors reshaped to give a sports car appearance. All side chrome trim is removed with the exception of the rub strip at the base of the doors and fender line



Uniform Vehicle Code

(Continued from page thirty-three)

obedience to signals. If the road is clear, the pedestrian is allowed to cross against the signal. Other states have made other changes, based on actual experiment, and these changes have proved worth while.

J. Allen Davis warns, however, that the wording of the Code should not be changed. Additions are proper when they are based on local conditions or arrived at through experiment, but a change in the phraseology of a law can frequently change the law so that what appears to be conformity on the surface will, in practice, be something else entirely. A traffic law is a complicated thing. The simplest law serves two functions—prevention of trouble and penalty for infraction. In addition, some laws must be interpreted in civil suits arising out of traffic accidents. The change of one word can affect one or more of these functions.

Uniformity goes farther than simple rules of the road. The present Code is published in five acts:

- I—Uniform Motor Vehicle Administration, Registration, Certificate of Title, and Antitheft Act.
- II—Uniform Motor Vehicle Operators' and Chauffeurs' License Act.
- III—Uniform Motor Vehicle Civil Liability Act.
- IV—Uniform Motor Vehicle Safety Responsibility Act.
- V—Uniform Act Regulating Traffic on Highways.

In addition, there is a Model Traffic Ordinance for cities and a Manual on Uniform Traffic Control Devices for Streets and Highways.

The only way in which the United States can enjoy uniform motor vehicle regulations is by the adoption of these laws and devices. Each state and the District of Columbia must adopt and administer the Code in its own territory. Nobody wants the federal government to take over traffic regulation and the Code was not written with that in mind. Thus the first step toward uniformity is local and state acceptance.

The second, and equally essential, step is uniformity of enforcement. Some states with exactly the same laws vary in the strictness with which they apply them. In Detroit, for example, pedestrians tread with care when they step from the sanctuary of the sidewalks. In California, especially in Los Angeles, the sight of a pedestrian in a cross-walk is as effective as a red signal in stopping traffic. Similarly, California Highway Patrolmen and Los Angeles city police allow motorists to exceed posted speed limits in certain areas, whereas this is not the case in other states. It does not even apply to some other cities within California. The puzzled driver can drive down Olympic Boulevard

(Continued on page forty-five)

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PETER WARGO, design engineer in charge of development of Vac-Tach and Motor Minder, points to distributor rotor shaft by which easily installed switch operates tachometer drive

Accessory Trials

NEWEST STEWART-WARNER INSTRUMENTS

by Fred Bodley

PHOTOS BY E. RICKMAN



VAC-TACH is three instruments in one: vacuum gauge, rpm odometer (from which actual engine miles can be figured), and 4500 rpm tachometer. Size of instrument makes it a snug fit in some cars

AFTER USING and testing different types and makes of vacuum gauges the Stewart-Warner Motor Minder stands out as a superior instrument. The design of its dial harmonizes with the styling of modern cars' instrument panels. It fits in place of '49-'51 Olds clocks and can be mounted on the steering column or dash equally well. It also will replace '49-'51 Ford or Mercury clocks. The connection to the intake manifold is very simple and can be made in a few minutes by anyone. The dial of the Motor Minder is divided into five differently-colored segments, each showing a distinct operating range, easily read by a glance at the steady needle.

The steadiness of the needle is due to the rugged construction of the instrument. A phosphor bronze Bourdon tube with suitable linkage carried on stainless steel pinions and slightly preloaded needle in place of the usual diaphragm make for accuracy and long life. An added feature is a built-in light for night driving.

If you will mind the Motor Minder it will help you prolong the life of your car by showing when the engine is lugging unnecessarily and by giving you insight into the condition of the engine so that serious troubles can be forestalled by having the symptoms corrected. It will also stretch your gasoline dollar if you follow the simple procedure of keeping the needle in the green segment of the dial.

When testing the instrument a run was made over a section of the city, driving with no regard for manifold vacuum. Another run was made over the same course but by glancing at the Motor Minder and keeping the needle in the green segment as much as possible, an increase of 18½



THIS S-W tachometer registers rpm only, is ideal instrument for general passenger car use

Thirty-eight



RECORDER-TACH incorporates odometer which keeps record of engine rpm's up to one billion

Motor Trend

per cent in gas mileage was obtained. Oil consumption can be decreased by a light touch of the throttle now and again when going down a long grade, holding a high vacuum—a condition which is clearly shown by the needle pointing well up in the yellow or decelerate range—a condition which can make the engine function as an oil pump. It will make you a better driver, make your car last longer, save you money on gas and oil, with a little study it will make you a pretty good trouble shooter—and for the ladies—they can tell at a glance when the needle is dead in the red that they have stalled it again.

Truck and fleet operators have long known the benefits of equipping their vehicles with Motor Minders and, for added performance, economy and still longer engine life, with Stewart-Warner electric tachometers. There are three models, the Vac-Tach, the recorder tachometer and the standard model.

The standard model shows engine speeds up to 4500 rpm. Dial face measures three ins. in diameter, has white numerals on black background, red "economy range" markers which can be set to any desired limits.

The recorder model has the same specs as the standard, with the added feature of an odometer (revolution recording counter) which will register one billion revs before starting over.

The Vac-Tach has, in addition to the recorder, a $4\frac{1}{2}$ in. dial and a built-in vacuum gauge—a very impressive instrument. These tachs are accurate to $2\frac{1}{2}$ per cent at 1000 rpm and better than one per cent at 4000 rpm. The recording mechanism is temperature-compensated from -30° to $+120^{\circ}$ F and is extremely accurate under every sort of climatic condition.

The drive which fits neatly and easily under the distributor cap is a single-pole, double-throw sending switch, utilizing the car's battery for energy to turn the revolving magnet in the recording head. This magnet is made of a new metal known as Cunife, a copper-nickel-iron alloy. It is cold-worked and has exceptionally stable magnetic qualities.

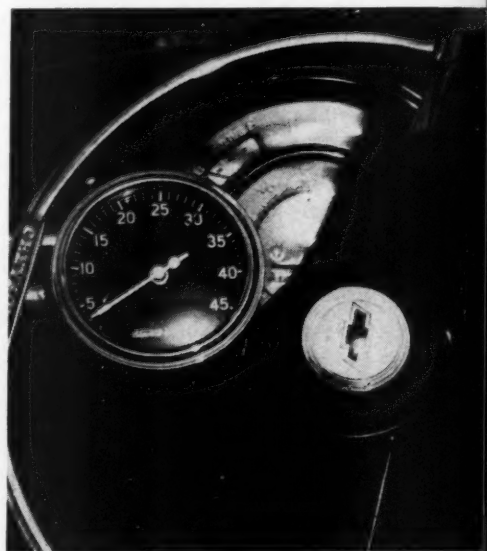
Through the reduction incorporated in the electric drive at an engine speed of 4000 rpm the revolving magnet in the instrument is turning only 333 rpm. Primarily, this makes for longer life, as a mechanically driven tach would be turning 2000 rpm. Also, the slow speed of the magnet accounts for the fact that there is no overswing of the needle, giving very close readings at all times. The needle travel is 270° as against 90° for the condenser resistance-bleed type of electric tach. Variations of voltage from the car's battery make no difference and there are no dry cells to replace.

These tachs are now available for all six and eight-cyl. Ford engines from '48 through '51, and for any car with six-cyl. Delco-Remy distributor or with Autolite IGC 1107-S or 140-1003 distributors. Adaptations will soon be available for Studebaker, Chrysler, Hudson Hornet and cars with eight-cyl. Delco distributors. Those interested in 8000 rpm instruments should address inquiries to Stewart-Warner Corp., Instruments Division, 1826 Diversey Parkway, Chicago, Ill.

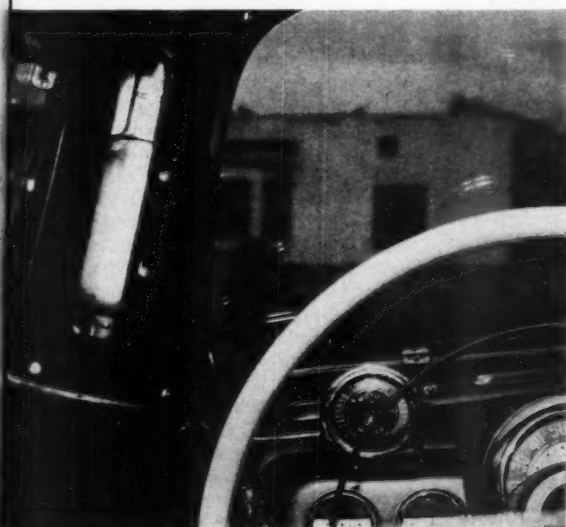
A tachometer is valuable for much information besides seeing how tight the old mill will wind. Speedo readings at various speeds can be accurately checked and the engine can be held within its proper operating limits, especially in the lower gears. Rpm's can be kept within the economy range, prolonging engine life and

increasing gasoline mileage, and with the recorder-tach (incorporating the odometer) the real span of engine life can be noted. It will tell where that gasoline goes in city driving, where much time is spent waiting for lights and traffic tie-ups with the engine idling for long minutes and the rpm's accumulating. It also tells how many rpm's are wasted by high engine speeds in first and second gears. Obviously, this odometer feature is only of value to the exceptional motorist who takes an engineer's attitude toward his machine. But, of course, it is invaluable to the operator of commercial equipment.

Stewart-Warner service is nationwide. S-W products are of top quality.



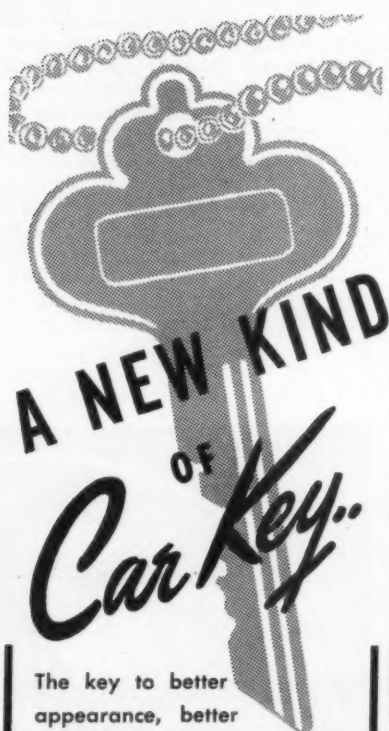
BASIC S-W tachometer can be readily mounted on steering column of any car, can be installed in many instrument panels, has illuminated dial



ONE OF many possible ways to mount the Motor Minder. Using fuel flow meter at left, 18 1/2 per cent improvement in mpg was made



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(Continued from page sixteen)

engines. They found that a 12½:1 ratio is practical for road engines, that it would boost average mileages to 25-30 mpg, and would require approximately 100-octane fuel with current designs.

But still, there's that octane problem rearing its ugly head. Right now, our 80-82 octane premium pump gas will handle about 7½:1 compression without complaining. We could produce up to some 20 per cent of our total volume in 88-octane gas, suitable for 10:1 ratio (20-25 mpg)—at about 35 cents a gallon. Beyond this, it's estimated that it would cost the oil industry a half-billion dollars for every octane-number increase.

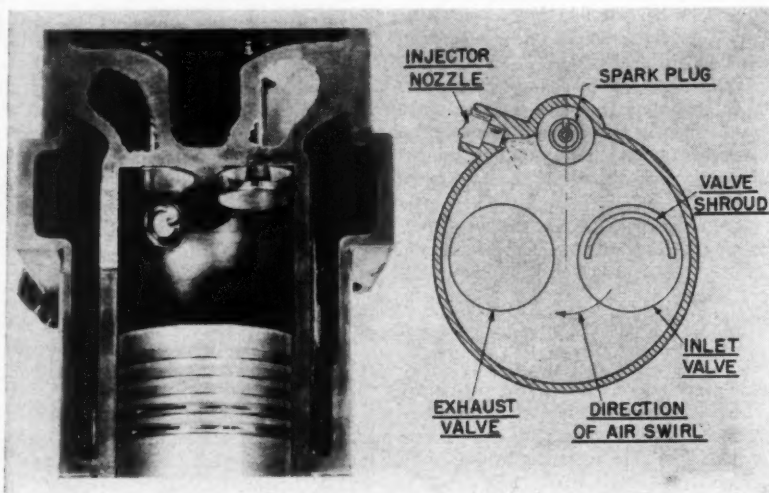
So in terms of 30 million cars and 12:1 compression ratios, we still have our high-

connect the cylinder in turn with the intake, spark plug, and exhaust; The 1936 Aspin layout ran 14:1 compression on 78 octane.

These weird designs were all basically sound, but the technical difficulties involved in making them practical for automotive use—noise, wear, sludge, heat flow, hp per lb. of engine weight, etc.—these problems are a long way from solution. Besides, these setups are not inherently adapted to burning very lean mixtures, any more than today's engines are. So there may be a better answer.

Texaco to the Rescue

Back during the war, Everett Barber, a research supervisor for the Texas Company, came up with an entirely new prin-



UPPER END layout of Texaco experimental high compression engine is shown in full clarity in this vertical cross-section of actual test unit, plus plan view drawing of valve, plug and injector layout

octane fuel problem.

Now how about those answers on the drawing board? Engineers have recognized the relationship between compression and knock since before World War I, and some have been thinking about "mechanical octanes" since 1917! The early attempts to build high-compression engines that would run on low-octane fuels were based on the theory that, if maximum surface temperatures in the combustion chamber could be reduced by 600-1000° F, the mixture temperature could be controlled so that spontaneous ignition would not occur under high compression pressures.

This required getting rid of the exhaust valve—which will run red-hot at around 1300° F in an auto engine under full power! Some attempts utilized a single valve for both intake and exhaust, with a sleeve valve in the port to connect with the intake and exhaust manifolds; the Abell design carried 9½:1 compression on kerosene as long ago as 1923. Other attempts used a rotary valve in the head to

ciple of combustion control.

His idea is based on the simple fact that there is a split second of "ignition lag" before any combustible mixture will ignite spontaneously from its own internal heat. Barber reasoned: "Why not spin pure air in a round combustion chamber, inject the fuel into the swirl near the spark plug, and fire it before oxidation reaction has time to detonate it?" The illustrations show his layout—now designated the "Texaco Combustion Process."

Pure air is drawn into the cylinder with a violent spiral swirling motion through a shrouded intake valve. (There are a number of ways you could produce the swirl, but the shrouded poppet valve was found to give the best breathing.) The induction layout is designed to give a rate of swirl of six or seven times crankshaft speed; in other words, at 2000 rpm the air is making some 200-230 revolutions per second in the combustion chamber. On the side of the chamber opposite the valve is an injector nozzle, from which a

measured shot of fuel is sprayed into the air as it swirls past. A split second later, and 30-60 degrees of arc downstream, the spark fires the mixture before it can detonate. The flame front stands still while the unburned fuel mixture is fed to it!

This layout is not at all particular about its fuel diet—it will burn anything from heavy oil to aviation triptane equally well.

A zero-octane fuel was tested at 12:1 compression with 45 lbs./sq. in. supercharge pressure in the intake manifold; the power produced was equivalent, for instance, to pulling 280 hp out of an engine the size and speed of the Chevrolet.

Another major advantage of the Texaco process—certainly just as important to fuel economy as high compression—is the fact that, because the atomized liquid fuel is sprayed right at the spark plug, we can burn at least 10 times leaner mixtures without misfiring than we can with carburetor engines. This isn't going to mean any 75 mpg, but the real significance is that we'll burn *all* our fuel near top center and get the maximum effective expansion ratio on the power stroke (on conventional engines with lean mixtures, the fuel is still burning over half the power stroke). This single fact can mean another five mpg. So it might be that Texaco has the *real* answer to fuel economy.

Finally, of course, there's the big question: How practical is it for mass-produced passenger cars? We'll have the answer soon. A six-cylinder unit has been prepared for extensive road tests this year, and preliminary reports say the road performance compares favorably with anything we have now. Volumetric efficiency or "breathing" through the shrouded intake valve is somewhat inferior to conventional types, so the engine lbs. per hp at 12:1 compression won't take a plunge, as it's been doing the last couple of years with the overhead-valve V-8's. The difference is not enough to be important.

The injection equipment will be similar to that used for years on diesel engines, so there'll be no development snags there. Otherwise, no unusual engine techniques would be required. As for costs, these would start higher due to the extra expense of the precision injection equipment; mass production economies, however, should quickly bring the new designs into a competitive price position.

That's your briefing on the battle of the octanes. We must have high compression—but there's more than one way to get it. The stakes are high in this game of scientific hide-and-seek. Not only must we think of the "cents per mile" washing through our fuel pump, but we've got to remember those limited oil pools under Texas and Oklahoma.

The time has come for the automobile industry to think seriously about efficiency. Do we get it in the test tube or on the drawing board? We can only trust that John Q. Public gets the best deal!

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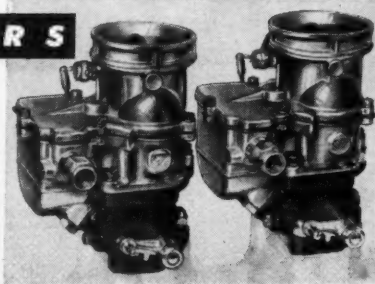
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MODERNIZED DUESENBERG is an unusual example of the restyling art; parts were pirated from new and old stock bodies, three years' work went into the job. Older, wiser owner does not recommend job to others

and buyer to the facts of life.

One beneficial aspect of the J religion is the orthodoxy demanded of members. I can only recall four restyled Duesenbergs. One had been refitted with a Chrysler coupe body, another carried a '36 Fleetwood Cadillac sedan body, . . . third lost its fender wells and gained a Riviera-type top. The fourth is by far the most interesting and illustrations of the result appear on these pages. It is owned by a St. Louis attorney, Norris H. Allen, who did all the body work himself. Chassis is stock "J" and originally the body was a convertible sedan, made in 1930 by Murphy of Pasadena. Allen bought the car in 1936, modified it slightly in 1938, began on his more ambitious program of restyling at a future date.

First step in the changeover was the drawing of a complete set of sketches showing the finished product. Most of the parts used in the building were pirated from other cars, though obviously much shop work was necessary to re-contour these panels to fit the Duesenberg chassis.

The rear end came from a '31 La Salle. Fourteen different pieces make up each front fender, largest piece in each fender taken from '47 Cadillac. The strips of metal that connect front fenders to hood panels are from '47 Mercury front fenders. Running-board moldings are from a '46 seven-passenger Chrysler. Buick bumpers. Front center light revolves with front wheels, was scrounged from a '30 Cadillac. Rear-tire carrier is modified fender well from a '28 Isotta. The hood was designed and shaped especially for the car.

" . . . I think sheer cussedness made me finish it," Allen admits now. "There were many times I would have given it to anybody who wanted it. Obviously I wouldn't do anything as silly as this again for any amount of money, if for no other reason than life is too short. I suppose I put 100 hours of work in each fender, suffering under the delusion that it was fun."

Fun or not, the job is a masterpiece of its kind. The restyled parts of the body—hood, deck, fenders, top—have a clean, smooth, modern appearance. Only obvious anachronisms are the tiny doors and the external hinges. Perhaps these parts might have been re-worked to provide only a single, large door on each side.

"I have no objection," Allen continues. "to your putting a picture of the monstrosity in your magazine on the basis that it is all for fun. . . . Some people seem to think the car is a rather good-looking one, but frankly it doesn't please me as much as I expected it to."

In addition to this car, Allen owns a Rolls-Royce "York" roadster and a Duesenberg SJ convertible coupe, supposedly the former property of cartoonist Sidney (the Gumps) Smith. These cars, vows the

Classic Comments

Restyling a DUESENBERG

Ornithological Cuisine

SEXIEST CAR in the world, in the eyes of most classic fans, is the titanic Duesenberg J. Probably the classic example of this adoration occurred in Los Angeles when eager fans spied a gently decomposing convertible coupe in a storage lot. The only clue to the owner's identity was furnished by the license plates which were three years old. While most of the impatient would-be buyers deluged Sacramento with letters of inquiry, one enterprising fellow wandered door-to-door in the area, pestering householders and businessmen with his persistent inquiry, "Who owns the big white convertible?"

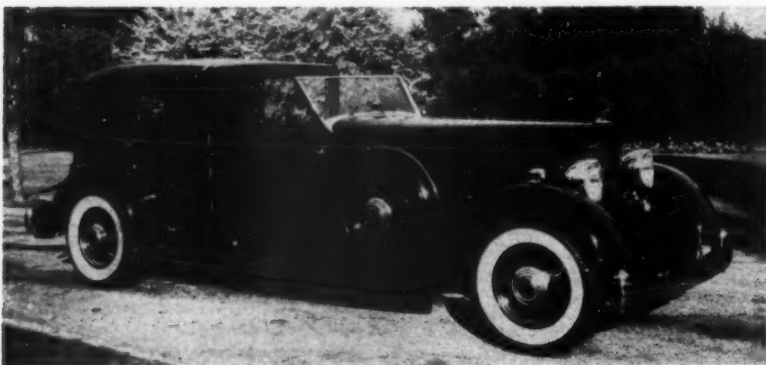
Like in the Horatio Alger stories, leg-work paid off. The Duese was traced to a retired, elderly citizen and a footsore but hopeful collector withdrew \$200 from his bank to help him through the initial interview. He didn't expect to consummate the deal with two bills, but he hoped his cash would be accepted as down payment.

The interview began auspiciously when

the codger admitted that he would like to sell. With utmost tact the buyer mentioned the rotted top, decomposed tires, slightly rusted door panels, missing upholstery, ripped rumble-seat back, chipped paint, lack of battery. Throughout this recitation the owner nodded gloomily, interrupting only to explain that he hadn't driven the car for years. Bringing his currency into the open, the buyer leaned forward and reminded the gaffer that the engine would doubtless need attention, the bearings might be pitted, the transmission and differential were unknown quantities. Would the gentleman, keeping these points in mind, like to name a price?

Yes, the gentleman would. \$2,500!

The fantastic part of this story is not that foolish price, but the fact that the young buyer actually considered paying it. The car is gone now, but the young buyer did not get it—nor does anyone know exactly what happened. But for a small time, the powerful Duesenberg hex seemed strong enough to blind both seller



A. E. ARNOLD

ULTIMATE IN elegance was achieved by Bohman and Schwartz of Pasadena on this 1934 Packard Twelve chassis for famous singer Jeanette McDonald. Leather was not used for top

owner, will be brought back to original condition and nothing will be changed.

Boiled Crow a la Carte

As has been pointed out by numerous patient readers, the Auburn-Cord-Duesenberg Company, Auburn, Indiana does not have any Pierce-Arrow parts and never did have. They can provide you with replacement parts for your Auburn, Cord, Graham-Paige, Hupmobile, Durant, Franklin, all difficult to obtain elsewhere.

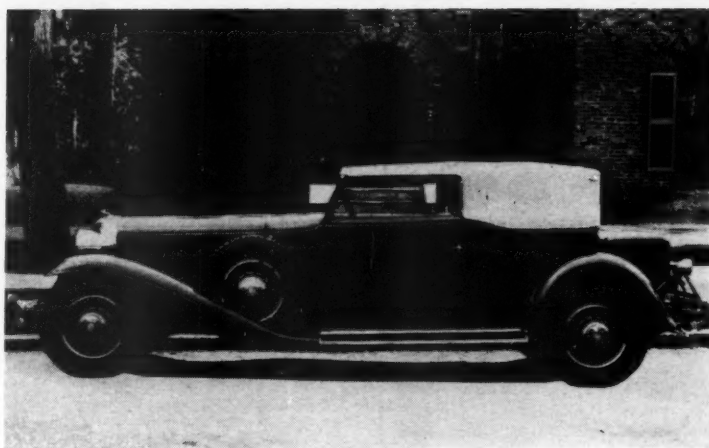
Last month I implied that the Darrin Packard convertible club coupes were windowless. Nothing could be farther from the truth.

In the discussion of Mr. Gebby's fine Duesenberg in the May issue, I made a big thing out of the fact that his car had an aluminum hood. This, I find, was the rule rather than the exception with Duesenbergs.

In April's column, a caption identified Irwin Coffey's Duesenberg as a '37. It was actually built in 1931.

A Cleveland reader would like some attention drawn to the museum of antique and classic automobiles in his city. Admission is free, and some of the cars on the floor are: Hispano-Suiza, Lancia, Isotta-Fraschini, two Rolls-Royces. Of unusual interest is the one and only Peerless V-16, originally built in 1932 and intended as the pilot model of a forthcoming line of custom automobiles. The pilot model has a body by Murphy, designed and finished in quiet, good taste. For readers in the area and those who may vacation nearby, the museum is owned and maintained by the Thompson Products Company. Address: Chester and E. 30th. Hours: 1-5 p.m. daily except Monday, 7-10 p.m. Wednesday and Friday.

Grim story of the month concerns a young enthusiast and a '37 Cord sedan. Cord was for sale and the young man wanted to buy but he made the mistake of asking unsympathetic friends. They advised no, caused indecision. By the time



WATERHOUSE CHRYSLER is companion car to last month's Waterhouse Packard. This chassis is 1931 Chrysler Custom Imperial. Though they're not spectacular, these bodies are extremely rare

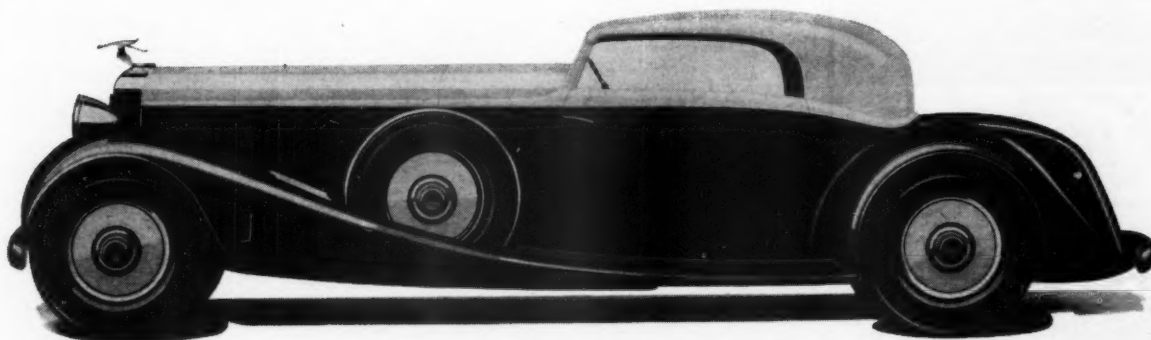
the young man decided to go ahead anyway, Cord had been sold. Why pathetic? Cord only needed trunk handle and minor body repair. Price—\$95.00. It will be a long snowy day in the Sahara before a bargain like that comes around again.

In answer to a plea in June CC, several letters have arrived from the distaff side of the hobby, assuring me that there are women with an interest in the classics. In addition, one girl in this town has just worked her way from a 1932 Packard convertible sedan to a 1928 Cadillac t.c. phaeton and shows signs of going even farther into the field. One letter suggests that most women are "too indoctrinated with the dogma of changing fashions" to admire the classics, but predicts that if some way can be found to make the classic car as fashionable as antique furniture there will be a remarkable upswing in feminine interest.

Bitter letter arrived from a Cadillac enthusiast, complaining that I had spoken disrespectfully of the Madame X con-

vertible coupe in the July issue. Perhaps I was too flippant in my comments, and if anyone else has taken offense, let me hasten to say that the opinions expressed in this column are mine and not necessarily those of MOTOR TREND magazine. Now that the insurance clause has been written in full, I admit that I don't think Cadillac is or ever was the greatest automobile ever built. I even think it possible that there were many years when it was not the best of the compromise cars. Yet it is undeniably a classic—particularly in the V-16 size.

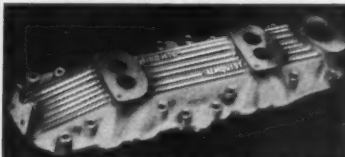
Response on the suggestion that there be organized a classic car club has been slow. Perhaps there is no need for such an organization. Mull it over for a while and let me know what you think. If you like the idea, send a card or letter to me, indicating what kind of activities you would like to see a club provide for members who own classics and for those who do not own but just enjoy reading and talking about them.



HISPANO-SUIZA of mid-Thirties combines performance with grace. Short (134 in.) wheelbase frame carries square bore and stroke V-12 engine



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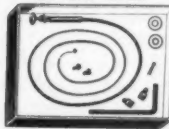
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Pontiac Motor Trial

(Continued from page nineteen)

brakes to the car's forward momentum; a downshift to the Low range was impractical since it is too low a gear, being designed for a pulling gear.

MECHANICAL FEATURES: Pontiac suspension is conventional: coil springs and wishbones in front, semi-elliptic springs in the rear. Damping is by two-way, direct-acting shock absorbers at all four wheels. Body construction and finish appear to be average—adequate, but not necessarily of the highest quality. Trunk compartment capacity and accessibility are good, but, as with most cars, the spare tire removal is no easy matter. It would be difficult for the average woman, who might be found in the predicament of having to change a tire, to unbolt the tire mounting, lean the tire over to one side, then actually lift the tire out of the compartment. After she did that, however, tire changing would be a simple matter.

The driver's position in the Pontiac is



LOTS OF room, convenient controls, quality appointments mark the Pontiac interior, one of the nicest MOTOR TREND Research has tested

comfortable, the seat providing restful back support. The steering wheel is slightly high, as is true of all GM products, although not uncomfortably so. Vision is about average, except that there is a minor blind spot to the right rear. This, however, caused no difficulty on the entire trip. Legroom and headroom, both front and rear, are quite adequate.

All controls are within fair reach and the instruments are all legible, even at night (although black light would be less tiring than the rheostat-controlled light that is used). There are two points of reflection or glare that got bothersome on the trip: the top of the dash, which, even though painted, could be improved by the use of a flatter paint or leatherette; and, the steering wheel cross-bar (which is chromed).

ENGINE: Powering the Pontiac is the staid eight-cyl., L-head engine, with its low (.432) bhp/cu. in. rating, but fairly good torque output of 220 ft. lbs. @ 2000 rpm. Horsepower output is enough (when compared to the car's total weight) to give the Pontiac a power/weight ratio somewhat better than the average domestic stock car. Servicing the Pontiac engine should be no problem; all major accessories (distributor, carburetor, fuel pump) are located conveniently.

TREND TRIALS NO.: Our standard method of evaluating the worth of a car buy, the TT No. (based on original purchase price, maintenance upkeep and depreciation), works out to a relatively low 36.0 for the Pontiac 8, Hydra-Matic equipped. This is the first car in the \$1951-2200 class that has been given a TT No., and it is therefore difficult to analyze the car on a class basis. However, the figure falls close to the overall average, indicating that the car is a reasonable buy. Our personal opinion bears this out—for the money invested, it's hard for a family man to go wrong on the purchase of a Pontiac.

TABLE OF PERFORMANCE

DYNAMOMETER TEST

1200 rpm (full load)	28 mph	36 road hp
2000 rpm (full load)	47 mph	58 road hp
2800 rpm (full load)	68 mph	68 road hp (max.)

ACCELERATION TRIALS (SECONDS)

Standing start 1/4-mile	:22.03 (D)*; :22.03 (L-D)**
0-30 mph (no gear change)	:05.58 (D); :05.22 (L)
0-60 mph through gears	:20.12 (D); :20.26 (L-D)
10-60 mph in DRIVE (downshift to third)	:19.98
30-60 mph in DRIVE (downshift to third)	:14.66

TOP SPEED (MPH)

Fastest one-way run	90.09
Average of four runs	87.72

FUEL CONSUMPTION (MPG)

At a steady 30 mph	20.8
At a steady 45 mph	18.4
At a steady 60 mph	15.8
Through light traffic	19.6
Through medium traffic	16.9
Through heavy traffic	11.9

BRAKE CHECK

Stopping distance at 30 mph	47 ft. 7 ins.
Stopping distance at 45 mph	111 ft. 0 ins.
Stopping distance at 60 mph	186 ft. 8 ins.

SPEEDOMETER TEST

At 30 mph indicated 31 mph	3.3% error
At 45 mph indicated 48 mph	6.6% error
At 60 mph indicated 65 mph	8.3% error

*Shift using DRIVE only

**Shift from LOW to DRIVE

GENERAL SPECIFICATIONS

ENGINE

Type	L-head, straight 8
Bore and Stroke	3 3/8 x 3 3/4 ins.
Stroke/Bore Ratio	1.1:1
Cubic Inch Displacement	268.4
Maximum Bhp	116 @ 3600 rpm
Bhp/Cubic Inch	.432
Max. Torque	220 @ 2000 rpm
Compression Ratio	6.5:1, Optional 7.5:1

DRIVE SYSTEM

Transmission: Conventional three-speed. Ratios: First—2.67:1, Second—1.66:1, Third—1:1, Reverse—3.02:1. Hydra-Matic®
Rear Axle: Semi-floating. Ratios—Standard 3.9:1, Optional—4.1:1, 3.63:1, Hydra-Matic—3.63:1

DIMENSIONS

Wheelbase	120 ins.
Tread	Front—58 1/16, Rear—59 1/16 ins.
Overall Width	73 11/16 ins.
Overall Height	65 5/8 ins.
Overall Length	202 1/4 ins.
Turning Radius	19 3/4 ft.
Turns lock to lock	4
Weight (Test Car)	3840 lbs.
Weight/Hp Ratio	33.1:1
Weight/Road Hp Ratio	56.5:1
Weight Distribution (Front to Rear)	53.9/46.1

*Optional, \$150 extra

Uniform Vehicle Code

(Continued from page thirty-seven)

in Los Angeles at 35 mph during rush hour but for the same speed in a 25 mph zone in Berkeley he will get a citation. This difference in enforcement effectively nullifies the gains made by adopting the Uniform Code, and leaves the motorist as badly confused as before.

In all matters concerning law-making the citizen is the final boss. You are the citizen and you are the one who will eventually make the decision on adoption of the Uniform Code in your state. Besides clearing up the confusions detailed in this article, adoption of the Code will make interstate buying and selling of automobiles much easier; protect you against drivers who, under some present laws, are not required to carry liability insurance or post bond in case of an accident; greatly facilitate the movement of trucks by eliminating some of the restrictive laws on size and weight.

The benefits are many. First, of course, is reduction of accidents. Secondly, there will be greater freedom from unexpected citations in your state and in others. Freedom, too, from all the minor irritations of driving under strange laws, trying to remember which reaction is correct for which locality. Finally, there is the feeling of security from the knowledge that in the event of an accident the other driver is financially responsible for damage he caused. These are worth working for—worth the few minutes required to write a letter to your representative in the state legislature, worth the time required to stir your civic group into action.

Nash-Healey Sports Trial

(Continued from page twenty-five)

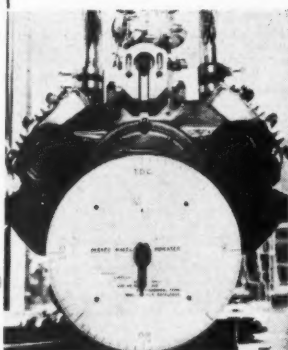
could be done away with as they are not positive in position control and, in the aluminum body, will rattle in a few months. The steering post should have a vertical adjustment for greater comfort.

A little more research applied to this car and Nash will have a product of which they may be justly proud, and the re-entry of an American manufacturer to the sporting field should establish a precedent that others will follow.

GENERAL SPECIFICATIONS

ENGINE	
Type	Overhead valve 6
Bore and Stroke	3 3/8 x 4 3/8 ins.
Stroke/Bore Ratio	1.31:1
Cubic Inch Displacement	234.8
Maximum Bhp	125 @ 4000 rpm
Bhp/Cu. In.	.490
Maximum Torque	210 ft. lbs. @ 1600 rpm
Compression Ratio	8.1:1
DRIVE SYSTEM	
Transmission	Conventional three-speed
Ratios	Low—5.27:1, Second—1.55:1, Third 1:1, Overdrive—.70:1
Rear Axle	Torque tube drive
Ratio	4:1
DIMENSIONS	
Wheelbase	102 ins.
Overall Length	172 ins.
Overall Height	52 3/4 ins.
Overall Width	66 ins.
Tread	Front—53 ins., Rear—54 7/8 ins.
Turning Radius	17 1/2 ft.
Weight (Shipping)	2600 lbs.

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SELL OR SWAP for sports car: 23 McFarlan formal sedan, T-head, dual valves, triple ignition, 33,000 miles, A-1 throughout. Cost \$14,500, sell for \$650. Picture in June MOTOR TREND. Elliot Wiener, Monoxide Manor, Pacific Palisades, Calif.
SELL—Brand new 1948 MG "TC." Never run or licensed. Blue with beige interior. Original list price. L. Nabholz, 6683 Lakewood, Dallas 14, Texas.

SELL—1931 Cadillac V16 seven-passenger sedan. Immaculate condition throughout. Tires and motor in top shape. Very low mileage. Best offer over \$350. David S. Frehn, 1930 Orwood St., Stockton, California.

SWAP—4x5 Anniversary Speed Graphic; coupled range finder focal-plane sync, Mendelson flash, and three cut-film holders. Want sports or classic car. Send photo and description. Paul Clark, 205 Acorn Los Alamos, New Mexico.

SELL—1936 Pierce Eight limousine model 845, seven passenger, overdrive, heater, 51,000 miles, \$375. Inspection invited or will send photo. E. H. Shriner 30 8th Avenue, Haddon Heights, N. J.
WANTED—Photos of custom cars for collection at bum. L. Wolf, 418 Main Street, Paterson, N. J.

SELL OR SWAP—I want a Biddle roadster 1918 or newer. Will sell or swap my 1934 Auburn 1250 custom roadster. R. M. Lancaster, 310 Milligan Street, Knoxville, Tenn.
SELL—1941 Hupmobile Skylark, has Cord lines, in fair condition, needs paint, motor runs well, price \$200. Weaver, 834 Washington St., Defiance, Ohio.

SELL—1935 Ford Brewster, fair condition, price \$275. C. J. Henry, 308 Senator St., Brooklyn, N. Y.
WANTED—'34-'39 Packard Super Eight or 12 convertible coupe or sedan in restorable condition. Send picture and information. N. Skipper, Rt. 1 Box 359, Wilmington, N. C.

SELL OR SWAP—36 Ford convertible coupe, padded upholstery, Weiland 8.75:1 heads, Edelbrock super manifold, Harmon-Collins full race cam, ported and relieved. Swap for hot rod. J. Coffin, c/o Y.M.C.A., El Paso, Texas.

WANTED—Automobile sales catalogues and folders on pre-war cars. Please state price, or will trade for later catalogues. Bob Chamberlin, 153 Circle Ave., Ridgewood, N. J.

SELL—16 cylinder Marmion in running order, all aluminum motor and hood, good car for customizing. D. Shepard, Cape, Colo.

WANTED—34x4 antique auto tires, steering wheel for 1909 Hupmobile. B. H. Atchley, P. O. Box 146 Loudon, Tenn.

SELL—1932 Ford roadster, original body. Souped late engine, column shift, custom chassis, hydraulic brakes. 8000 rpm tach, undercoated. \$850 S. Bobitt, 52 Orange St., Waltham, Mass.

SELL—1930 Packard Eight, T-35 coupe, good condition, original paint, owner's handbook included \$100. J. S. Bush, 111-C S. Marguerita St., Alhambra, Calif.

WANTED—Engine and swing axle for 1951 Volkswagen and Porsche 356. State price. R. F. Belz, 93 Savannah St., Rochester, N. Y.

WANTED—Fordomatic transmission. Dick Hamm 3326 Ivy Lane, Minneapolis 16, Minn.

SELL—1935 Wolseley Hornet roadster. Beetle-back two-seater body by Daytona of England. Six cylinder ohc engine, Whitworth racing wheels, recently refinished. \$900. Bob Qualls, 2 Meta Drive, Belleville, Ill.

WANTED—Card or Lincoln Continental, if motor OK, in southern states; W. Wyatt, 2712 Monroe, Columbia, S. C.

SELL OR SWAP—1928 Chevy with less than 1000 miles on it. Make offer. Dewey Houser, Williamson, Iowa.

SELL OR SWAP—Indianapolis two-man car. Placed 10th in 1934. Would make super sports road car. Want older race car or antique. Robert Thayer, Rockton Ave, Road, RR 6, Box 325, Rockford, Ill.

SELL—1934 Packard 12 coupe and 1934 Packard Super Eight four door sedan. Very reasonable. Sgt Bob Gruesser, 566194 Service Co., 2nd Service Bn. 2nd Marine Division F.M.F. Camp Lejeune, N. C.

WANTED—Information on parts or anyone selling parts for 1914 Model T Ford. B. H. Taylor, Clay Center, Nebraska.

SELL—Cord, 1937 Model 810, four door, Beverly sedan. Good condition. \$450. Capt. J. G. Barnes, 821 Edgefield Rd., Ft. Worth, Texas.

SELL OR SWAP—1935 Packard V12 Coupe. Easily restorable \$135 Bob Travis, 929 South Shore Dr., West Lake, Kalamazoo, Mich.

WANTED—Information on installing a Chrysler six model No. 238 in a '39 Plymouth four-door. Ed Donnelly, Creek Lodge, N. Y.

SELL OR SWAP—Will sell classic 1928 Rolls partitioned sedan, low mileage, original throughout, ready to go anywhere. Or trade for hot rod or custom. J. Wright, Covington, Va.

WANTED—Speedometer head for 1923 Model A Duesenberg, also complete Jaguar SS-100 2 seater car, engine condition not important. Charles Bricker 2035 Hilton Rd., Ferndale, Mich.

SELL—1925 Duesenberg Jr. Eight motor and trans mission complete and running. Make offer. R. P. Rentzell, Lutherville, Md.

SELL OR SWAP—Cam by Winfield for '36 or '37 Cord. \$35.00 exchange. Russell Brownell, 1427B Berg St., San Fernando, California.

SELL—Slightly used Belond Equa Flow Exhaust Headers (headers only) for Olds '88. Price \$25.00 plus postage. J. C. Kugler, Box 65, Port Washington, New York.

SELL—1937 Cord, completely rebuilt, engine, supercharger, transmission, universal joints to sell on a unit only \$350.00. Also 1937 supercharged Cord convertible coupe, beautiful condition. George P. Boor, Jr. R. D. No. 4, Greensburg, Pa.

WANTED—Wrecked or well worn sports car or hot rod complete or in part. Will swap eight mm movie camera as part payment or will pay cash. Donald Zahoruk, 295 Mill St., Haverhill, Mass.

SELL—One Stanley Steamer engine. Harold J. Olden, 210 Center St., Elkins, West Va.

WANTED—Ardun Heads and street roadster. Y. LeMoine, Eastern North Carolina Sanatorium, Wiler, N. Carolina.

SELL—Flat head Cad engine, has generator, starter, distributor, carburetor, water pump, electric pump and four speed hydraulic. Approximately 1500 miles on unit. \$250.00. A. E. Walling, P.O. Box 79, 1371 Holly Drive, phone 2140-W, Tracy, Cal.

SELL—1935 Ford two-door, clean, with 1946 Cadillac engine. Engine newly overhauled and adapted for ready installation in any Ford product 1935 or later. Price \$595.00. A. M. Brenneke, c/o Perfex Circle Corporation, Hagerstown, Indiana.

SELL OR SWAP—1950 MG-TD in A-1 shape 12,000 miles, radio and heater, and other extras, color green. Also 34x4 tire, new W. R. Bennett, 2704 S. Michigan St., South Bend, Ind.

SELL—McCulloch supercharger for Ford, Mercury. Latest model, excellent condition, \$115. E. Straus, 2534 Piedmont Ave., Berkeley, Calif.

SWAP—1950 De Soto convertible, like new, 3500 miles, for sports car or sports car and cash. S. Burman, 2010 W. 53rd St., Minneapolis, Minn.

WANTED—Used MG TC, good condition, reasonable price, send picture and information. R. J. Emerson, E. Co. Marines, Camp Lejeune, N. C.

WANTED—A Roadster body that will fit a 1924 Stutz automobile I. A. Myhra, 1362 2nd St., North, Fargo, N. Dak.

SELL—'48 British Austin A40 engine and transmission, in excellent condition. Ideal for small sports car or class "O" lakes job. \$150. L. R. Pobjoy, 4621 Vista Del Monte, Sherman Oaks, California.

WANTED—1932 Ford roadster, in excellent shape, Box Ruston, 3125 Adel Road S.E., Cedar Rapids, Iowa.

WANTED—Classic car, between 1928 and 1929, send description of engine condition, picture, and price. R. Thompson Box 174, Red Wing, Minn.

SELL—MG TC, 1949, one owner, 15,000 miles, never raced, condition throughout excellent. Green paint and tan leather Robert Townsend, R.F.D. No. 1, Mystic, Conn.

SELL—'47 Roadmaster convertible, hood and rear deck dechromed, bottom half of dash chromed, dual pipes, lowered two inches. General white walls, beautiful black finish. M. C. White, 93 Hopkins St., Hilton Village, Va.

WANTED—L-29 Cord, photos, information sent to R. Fabris, Bardonia, N. Y.

SELL—1932 Packard convertible sport coupe, best offer, very good condition throughout Maurice Fry, 110 N. Church St., Gibson City, Ill.

WANTED—Auburn, Cord or Duesenberg or foreign car. Price no object if it's what I want. Must be within 200 miles of: Sidney Plaut, Goshen, Ind.

SELL—Two bronze Octa-gone water carburetors, one for six cylinder and one for eight, both with tanks. \$10 each A. O. Tice, 140-24 Oak Av. Flushing, L. I.

WANTED—Sports, custom or classic car Cash on the line, send information to Melvin Simmons, 1437 St. Marks Ave., Brooklyn, N. Y.

SELL—Mercedes-Benz "Radiator" Model "K" excellent condition. No dents. Make offer Al Papp, 852 1/2 Hillside Ave., Hollywood, Cal.

SELL OR SWAP—Two cord transmissions, body, supercharger motor, U joints, and other parts. Trade for Citroen and Citroen parts, or other auto J. Weir, 5425, W 119 St., Inglewood, Cal

SELL—1935 Packard 12, convertible coupe, 52,000 actual miles. Condition excellent. New top, paint. Engine overhauled 1949. Highest offer takes. R. A. Fisk, 81 Chatsworth Dr., Toronto, Ont, Canada.

WANTED—Classic convertible, Pierce Arrow, Packard, or ? Price and description to Barry Stuart, 1201 Walsh "A", Coral Gables, Fla.

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WANTED—For 1931 Ruxton roadster two front drive axles and Universals two caps, 1 pair parking lights. F. Tebbenhoff, 54 Grand Av., Palisade Park, N. J.

SELL OR SWAP—MG, TD, red, radio, heater, 3500 miles, never raced, sell \$1500, or trade for larger car. K. Ahl, Cannelton, Ind.

SELL—1930 Franklin convertible model 145, radio included. License tag costs only \$5. Price \$150 complete with any spare parts desired. J. H. Bruening, 810 35th Av. No. St. Petersburg, Fla.

WANTED—12 cylinder motor for 1934 Packard 12 roadster. Must be in excellent shape. Write giving information and price. Irving Schwartz, 4916 Morgan Av., So. Minneapolis, Minn.

SELL OR SWAP—Jaguar Mark V, leopard skin interior, new General w.w. tires, 15,000 total miles. Trade for Hotshot, classic or custom. Send photos and description. H. B. Borges, 3708 E. Independence, Tulsa, Okla.

SELL—Two-man competition body and frame, detachable fenders, Suitable class 3, \$300. D. G. Satcher, 11874 Beatrice St., Culver City, Cal.

SELL—1930 La Salle Touring sedan. Mechanical condition excellent, tires, paint, body very good. New canopy over front seat; rear top worn. \$200. W. Odell, 106 Bedell Av., Hempstead, L. I.

SELL OR SWAP—259 copies English "Autocar," plus few others; 1946 to date. All complete and uncut. Best offer takes. R. C. Johnston, 1610 West St. Joseph, Lansing, Mich.

SELL—2.3 Litre Alfa-Romeo sports coupe from D. Cameron Pack collection. Goes to highest bidder. Details and pictures available to prospective purchaser. A. D. Trager, P. O. Box 4245, Jacksonville, Fla.

SELL—1936 V12 Pierce Arrow sedan 185 H.P. 73,000 miles, excellent paint and tires. Good mechanical condition. Radio and o/drive. Make offer. J. A. Johnson, 3887 Chevy Chase Dr., Flintridge, Cal.

WANTED—From Los Angeles area: '29 Ford roadster, late mill, hydraulics, etc. Will pay cash. Send picture, price, description to Pfc. Joe Quaid, RA19339975, 25th Signal Co., APO No. 25, c/o PA, San Francisco, Cal.

WANTED—to buy handbooks, catalogues, and literature, etc. pertaining to Rolls Royce cars. J. E. Manning, M.D., 1627 Brown St., Saginaw, Mich.

SELL OR SWAP—'41 Ford custom convertible in immaculate condition. Will sell or trade for customized car, or converted Cord-Ford, Talbot coupe or what have you. Send photos. R. B. Tupper, Lake House, Colby College, Waterville, Me.

WANTED—Any year Crosley, cannot afford over \$100. Richard Sweetman, RR1, Hinsdale, Ill.

SELL—Rolls-Royce P-1 convertible sedan 1929, partly restored to original condition, motor recently overhauled, paint good, interior spotless, drive anywhere, \$800. W. D. Small, 3458 Shenandoah, St. Louis, Mo.

TRADE—1950 Ariel Square Four, 1950 Ariel Red Hunter for MG. Russell Peel, 320 N. 18 St., Richmond, Ind.

SELL—1936 Cord, recently overhauled, new tires, solid body, good paint and clean upholstery, completely stock. R. Tamsen, 5750 N. 73 St., Milwaukee, Wis.

SELL—1939 D.K.W. German semi-sports car in fine condition. Has front wheel drive, top was recently re-covered; price \$700. Ralph Schluttenhofer, Jr., 19816 Keith Rd., Grosse Ile, Mich.

SELL—Old Timers. Best offer takes 2 32x4 1/2 Firestones and one 33x4 Fisk. All perfect and new. DeBrosse Oil Co. 465 N. Front St., New Bedford, Mass.

WANTED—Transmission or parts for transmission, 1933 Chrysler custom Imperial, CL series. Alan Swallow, 2679 S. York, Denver, Colo.

WANTED—Dual manifold, aluminum heads for 24 stud, 1938 Ford, 85 HP. Please specify type. O. E. Thompson, Box 784, Baytown, Tex.

WANTED—1940-41 Bantam in good condition. Please send price and pictures. Gary Craig, 1012 Monroe St., Fort Wayne, Ind.

SELL—1935 supercharged Auburn Speedster. Mint condition. New engine, supercharger, 2 speed rear axle. New black paint, red upholstery, tires and chrome, \$1500. J. H. Baker, 113 Forest Court, Louisville, Ky.

SELL—1949 MG TC Perfect condition. 17,000 miles (actual). Never raced or wrecked. Yellow body. Red leather. Hollywood muffler. Windshield wings. \$1,300. J. H. Baker, 113 Forest Court, Louisville, Ky.

WANTED—Auburn, Cord, Duesenberg, Rolls, Wills St. Claire, etc. roadster, speedster, phaeton; repairable condition; Midwest location, also factory service manuals, all makes. Send photo and info. R. H. Smith, 2337 Le Feber Av., Wauwatosa, Wis.

SELL—1937 V12 Model "K" Lincoln. 7 passenger all aluminum body. Fair condition. Best offer. R. Hoek, 462 Myrtle St., Redwood City, Cal.

SELL—Packard sport phaeton 1931 custom straight eight. Four speeds, A-1 motor, wire wheels, new chrome, twin side mounts, low mileage. J. F. Steiner, Mgr., Home Hotel, Greenville, Ohio.

WANTED—all inside parts for my 1949 3 1/2 litre Jaguar. Interior completely destroyed by fire. Body is mechanically perfect. Also send diagrams and instructions on installation. H. B. Borges, 3708 E. Independence, Tulsa, Okla.

SELL—Classic car 1932 Pierce Arrow Eight. Original maroon body finish. Motor and body in excellent condition. Price \$500. E. W. Pergande, 1453 N. 50th

Pl., Milwaukee, Wis.

WANTED—Custom car. Send picture, price and all other information to Andrew Ladicks, 13501 Syracuse, Detroit, Mich.

SELL—Custom, Mercury Convertible. 1200 miles, '51 motor, '49 chassis, Edmonds aluminum heads, Winfield cam, duals, custom body, white leather and leopard, cost \$4,100, firm \$1,950. J. Cookley, 4201 Mass Av., Washington, D. C.

WANTED—Parts, parking lamp lens, information and literature on 1923 Nash heavy eight, model 1099-98, or 1090. Arnold Goffina, 32-R Pine St., Waverly, N. Y.

SELL—Auburn 851 supercharged speedster. Completely rebuilt, re-painted, re-plated and re-upholstered. New tires. Setup for dual carbs. and supercharger. Car in perfect condition. Make offer H. M. Resch, 1395 Vine St., San Jose, Cal.

SELL—For Studebaker Commander Six, 1938-48: Edmonds dual manifold, two 8.5 Edmonds heads, (one is brand new), two Stromberg carbs with air cleaners, Wico mag. and split exhaust manifold. All for \$775. Steve Dume, Temecula, Cal.

WANTED—Information on hopping up 1938 Oldsmobile Six without use of ohv. Car to be used for road running. E. A. Wallace, 478 68th St., Brooklyn, N. Y.

WANTED—Complete top assembly, with bows, for model A 1929 roadster or will buy good complete model A roadster. D. F. Aker, 236 E. Garro St., Plymouth, Ind.

WANTED—Custom Phaeton, 1930 to 1940 of any of the following makes: Pierce Arrow, Cadillac, Stutz, Rolls Royce, Duesenberg, Packard. Must be in restorable condition and complete. F. V. Stafford, 124 North Aurora St., Ithaca, N. Y.

SWAP—Mercedes-Benz tubular frame individual suspension sedan. Motor completely rebuilt. For clean Rolls right drive town car. J. Nelson, 1522 E. Huntington Dr., Duarte, Cal.

WANTED—Model "T" Ford roadster. 1922 model or later in good condition with top. Preferably from vicinity of midwest. State price. Tom C. 222 E. Reservoir Rd., Wheaton, Ill.

SELL—1940 Lincoln Zephyr Business coupe. Body in fair shape, motor fair, excellent for customizing. \$200. George Jezek, 4025 S. East Ave., Berwyn, Ill.

SELL—Tattersfield dual intake manifold with two carburetors, choke rod, and linkage, to fit '37-'48 Chrysler or De Soto 6. In good condition, \$40. L. W. Oehlbeck, School of Medicine, Chapel Hill, N. C.

WANTED—Triumph convertible roadster, '48 or '49. Please send photo and info. J. R. Mac Donald, 3203 W. Clarendon Dr., Dallas, Tex.

WANTED—Information on getting parts, restoring, and servicing 1932 Packard 900 Series sport coupe. A. L. Kinnaird, Jr., Rt. 9 Box 158, Birmingham, Ala.

SELL—Financed-aluminum crankcase for Ford-Mercury engine; 10 quart capacity. Also magnafloxed and balanced V8 rods. Raymond Schlachter, 215 Ridgeway Rd., Lexington, Ky.

SELL—1934 Ford roadster, rebuilt Mercury engine, bored .060 oversize, semi race car, good tires. \$200. Wallace Braun, 1036 West Ave., Detroit Lakes, Minn.

SELL—Best offer over \$750, only to classic enthusiast. 1931 Duesenberg "J" phaeton. Runs good, needs refinishing. Never been wrecked. Howard Bennett, 3720 Brandon St., Seattle, Wn.

WANTED—Stanley Steamer, good running condition. Send price, full particulars and picture. J. E. Newcomb, Box 689, Solida, Colo.

SELL—1932 four door Mercedes-Benz convertible sedan, 240 bhp supercharged engine, wire wheels, aluminum body, internal lubricating system, etc. Very good condition, \$1500. H. G. Johnson, 237 68th St., Brooklyn, N. Y.

SELL OR SWAP—1929 Dodge Senior six roadster. Driven less than 32,000, is in perfect shape for \$350 or any year Ford V8 convertible, in good shape. R. Suda, RFD No. 1, New Canaan, Conn.

WANTED—'32-'34 Auburn Speedster, 8 or V-12, suitable for rebuilding. H. McKeand, Temperance, Mich.

SELL—Cadillac V-12 engine, complete clutch and transmission, good shape throughout, also Graham supercharger in good shape. Will sell motor \$100, supercharger \$25. L. Phillips, Box 141, Loleta, Calif.

WANTED—Auburn 8 cyl. convertible 1932 or later. C. C. Bidwell, Pleasant Hill, Ohio.

SELL OR SWAP—Classic car—1929 Pierce-Arrow Model 133. Perfect condition all around. Want '37 Cord, '41 Graham, '40 Hupp, Skylark, Auburn, or make offer. R. Ericksen, 1139 Haerberle Ave., Niagara Falls, N. Y.

WANTED—1937 Cord convertible in reasonably good shape for \$300. Pvt. Bouxman, 23 York Terrace, Brookline, Mass.

SELL—1937 Packard 12 Limousine with side mounts. Perfect condition, new tires; \$995. Mr. Kerner, 612 Dittmar Way, Sacramento, Calif.

WANTED—Manual, specifications, advertising matter, 1927 Buick, also roadster body or top, standard. H. Newman, MD, Stanford Hospital, San Francisco.

SELL—'37 Cord Beverly sedan unblown. Represents \$1600 expenditure, including rebuilding recently. New U-joints, tires, paint, transmission, gears. \$900 cash. I. Coffey, Greenfield, Calif.

SELL OR SWAP—Graham supercharger, excellent condition, sell or swap for Ford speed equipment or 1933 Ford roadster doors. J. Linehan, 17 Bay St., Watertown, Mass.

WANTED—Supercharger (Ford) any type, 6-8 lbs. boost, also Auburn Speedster body and old V8 Ford chassis. Also info on superchargers of any kind. Hilton, 264 1st St., Hoboken, N.J.



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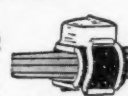
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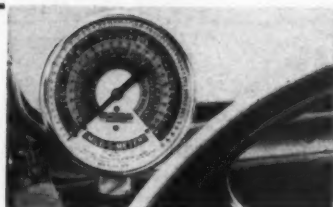
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- Australian Racing Yr. Bk. '50-'51**.....\$1.00
Reviewed in last month's MOTOR TREND.
- "The Motor" Year Book 1951**.....\$3.00
Races, Records, Drivers, Cars, Technical Data, World Car Specs, Road Tests, Fully Illustrated. No other book like it. (WE ALSO HAVE A FEW COPIES LEFT OF THE 1950 YEAR BOOK.)
- Racing Car Reviews**
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The Mile-O-Meter gauge is a scientific instrument of known merit for showing any driver the condition of his engine and miles-per-gallon rate. Operates on intake manifold vacuum. Easily installed on any car or truck. Simple-to-read, 4-color dial is set in steel case beautifully finished. Accurate internal movement. Shows how to correct engine condition. Makes a perfect gift. Gift packaged. De Luxe Model 3 1/4" dial, all chrome \$14.95 Fpd.; Standard Model 2 1/4" dial, black lacquer \$9.75 Fpd. Federal Tax included. Gale Hall Engineering, Dept. 1178, Boston 18, Mass.
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Clocked at 102 M.P.H. from a standing start in 1/4 mile at both Santa Ana and Tracy, Calif. drag races using a \$50 Iskenderian Rocker Arm Track Grinding cam.
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Spotlight on Detroit

(Continued from page ten)

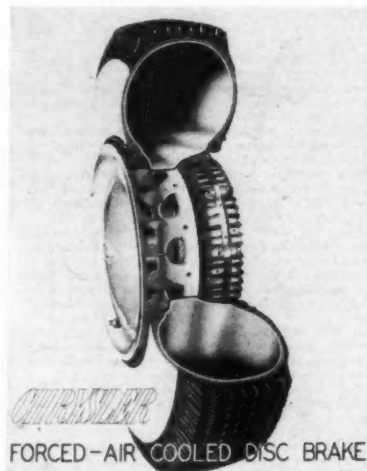
safe operation, (3) large space requirements, (4) higher initial costs from a production standpoint, (5) possibility that maintenance costs will be higher, (6) objectionable exhaust, (7) sensitivity to temperature changes, (8) possibility that a separate device will be needed to produce braking torque, (9) silencing may present a difficult problem, (10) requires a large reduction gear, (11) and, the power advantage for automotive use is too low to show turbines at their best advantage. . . . In summing up, Mr. Turunen says: "Any turbine power plant must promise performance not only equal to present reciprocating engines but to the highly refined engines of the future. At the present time there appears to be some question whether the gas turbine can promise such performance. However, in view of developments which seem sure to materialize, the future of the gas turbine must be contemplated with an open mind and with a degree of optimism."

ENGINEERING NOTES: Engineering developments having a more immediate effect on the average motorist are also in the spotlight this month. . . . As the result of the successful introduction of Power Steering by Chrysler this year, you may anticipate further use of power mechanisms to ease the operation of your car. One such device is a power brake, which informed auto observers predict will be available as optional equipment on some 1952 cars. Just a touch of the toe is said to stop a car effortlessly and smoothly, regardless of speed. . . . The use of unitized body and frame, now featured by Hudson and Nash, is expected to become more widespread. Proponents claim it helps to reduce weight and production costs, while improving the rigidity of an automobile. . . . Whether you like it or not, the swing to automatic shifting is snowballing. In fact, the day may not be too far distant when you will pay up to \$200 just to get a standard transmission. . . . Virtually every car maker is expected to offer high-compression engines in 1952 models. Engineers favor this trend because it offers the greatest promise of increasing efficiency over present levels.

Forced air brake cooling is proving highly successful in American production cars. Chrysler introduced it this year, and studies by the corporation's engineering section reveal that brake lining wear is reduced by as much as 50 per cent. In addition, brake fluid vapor lock during severe braking is eliminated, and stopping at high speed is accomplished more efficiently. The principle is likely to show up elsewhere in the industry as the result of these benefits to car drivers.

NEW MODELS FOR 1951: Two companies, Nash and Oldsmobile, announced additions to their 1951 lines this week. . . .

The long-awaited Nash Rambler hardtop is finally in dealers' hands. Called the "Country Club," it is the fourth car to be introduced in this series. A trim, five-passenger sedan, it provides increased visibility over previous models through an interesting treatment of side and rear windows. Door centerposts have been eliminated. Individually-controlled roll-down side windows are permanently set in stainless steel frames. . . . The new hardtop is powered by an 82 bhp, six-cylinder, L-head motor, with a displacement of 172.6 cu. ins. and a compression ratio of 7.25:1. As optional equipment there is automatic overdrive with four forward speeds. . . . Regular factory delivered price includes about \$300 worth of custom appointments such as air conditioning system, radio, deluxe upholstery and trim, electric clock, courtesy lights, directional signals and foam cushions. . . . Oldsmobile is now in quantity production of convertibles in both the Super 88 and Series 98 models. A choice of four colors in genuine leather upholstery and 13 body colors are available, as well as the option of a black or tan top.



ENGINEERING, COMBINED with styling, makes for efficiency, good looks. Instead of the wheel disc obstructing the flow of air to new Chrysler brakes, it contains scoops which direct cooling air onto brake housing, guard against fade

STYLE NOTES: . . . Ivan L. Wiles, Buick General Manager, believes more advancements in styling and engineering have been made in the last six years than in any similar period in automotive history. . . . He calls the torque converter transmission the outstanding engineering accomplishment, and the "hard-top" coupe the leading style innovation. Among other improvements are Easy-Eye glass, picture window visibility, and higher compression engines. . . . "It's obvious that the post-war car everyone has been talking about is here today," Mr. Wiles says. Other major developments which he points to are combination bumper-grilles, curved glass.

SELL 'N' SWAP

(Continued from page forty-seven)

SELL—Auto sale catalogs: Packard, Cad, Lincoln, orphan and foreign cars, minimum \$5 each. Also Motor (N.Y.). Annuals. Details for large, stamped, addressed envelope. A Twohy, 400 N. Kenmore, Los Angeles, Calif.

SELL—'49 Cadillac racing pistons 14½ new 9½ raced. Used racing cam for hydraulic lifters, standard cam, springs, lifters, pistons, generator, starter, manifolds, two carburetors, etc., cheap. C. F. Greenley, 634½ Cedar St., Webster City, Iowa.

SELL OR SWAP—1932 Packard dual cowl phaeton, excellent mechanical condition, good rubber, new brakes, paint job poor. H. Hubbel, Strawberry Hill, Norwalk, Conn.

WANTED—1930 to 1934 V16 Cadillac coupe, hard top and convertible, must be in restorable condition. State price. G. F. Mulvaney, 5504 Ellis Ave., Chi., Ill.

WANTED—105 cu. in. Offy engine for experimental installation in sports car chassis. State condition. Price must be moderate. R. Nobles, 2746 Orange St., Los Alamos, New Mexico.

WANTED—1925 Model T Ford Roadster. Body must be in good condition. Send price and pictures if possible. R. Winters, 36 Oakway Rd., Timonium, Md.

SELL—Classic car—1933 Packard Super Eight convertible coupe, body, top, upholstery good. Mechanically perfect. Six excellent 7.00x14 eight ply tires. Wire wheels. E. J. Whalen, Apt. 72, 337 Village Dr., Syracuse, New York.

SELL—Brand new, never used, Edmunds dual intake manifold for Olds V-8, with linkage and fittings: \$52. Also new of same for ohv Cad engine \$52. Dr. L. T. Bennett, 327 W. 117th St., Hawthorne, Calif.

SELL OR SWAP—1951 Olds Super 88 motor cars, intake manifold, air filter, fuel pump, valve covers, etc. Want five 7.60x15 whitewall tires, new or suitable for recapping. W. Stanley, Motive Parts & Equip., 106 mason St., Greenwich, Conn.

WANTED—Sports car, not competition—used: Jaguar, Allard, etc., or would consider one suitable for installing own hot V60 engine. State price. Pictures returned. J. Powell, 3100 W. Cary St., Richmond, Va.

SELL—1938 Lancia Aprilia convertible sedan \$400. Four cylinder, ohc, independent suspension all around. Farina body needs minor repairs. J. W. Lothrop, 117 Lakeshore Dr., Westwood, Mass.

SELL—MG rare model, 4 passenger, left hand drive, reg. 1950 Taurer. Special head, full custom tonneau cover, lowered. Beautiful job, \$1850. Write Sunny Gerke, 10639 Ashton Ave., Los Angeles, Calif.

WANTED—7.00x19 tires, prefer whitewalls, also Franklin automobile. State price. W. R. Babel, 738 Fifth St., Aurora, Ill.

WANTED—Stutz integral rear end, transmission and differential gears—any year from 1915 to 1923. R. Beattie, P. O. Box 636, New York, N.Y.

WANTED—Auburn V-12 1933 or '34 models, any body type speedster, also 2 wire wheels for '33 model 8-105 Auburn. M. Wilkerson, 1051 Opal St., San Diego, Calif.

WANTED—1934 or 1935 Auburn speedster or 1937 Cord supercharged convertible, send picture and info on condition and price. W. R. Back, 1720 Germantown Rd., Middletown, Ohio.

SELL—Excellent running 1928 Chevrolet four-door sedan, very good rubber, registered first part of '31. No reasonable offer refused. A. Costa, 60 Briggs St., New Bedford, Mass.

WANTED—Columbia overdrive for Ford in good condition. Also sell '48 Merc. motor complete \$85. D. Haack, Box 132, Lindsay, Okla.

WANTED—Brass radiator and headlamps for 1913 or older Ford. Also any other parts for same car you may have. G. Jowers, Box 469, Hebberville, Texas.

SELL—1917 White, model GEC 7 passenger touring. Good body, perfect motor, 20" conversion artillery wheels. A rare one. Write H. McCormack, 1402 E. Main, Puyallup, Wash. \$1,000.

STILL MORE RACES!

The coming fall and winter season is loaded with events for the sports car owner. As we go to press, three additional races have been announced. On October 21, the San Francisco Region of the Sports Car Club of America is staging a meet at Reno, Nevada, on a two and three-tenths mile circuit. On October 28, the First Annual Harwood Trophy Race will be held on the familiar Palm Springs two and two-tenths mile course.

Las Vegas, Nevada will play host to the sports car crew on December 9, with the Las Vegas Gold Cup Race. The six and eight-tenths mile, 'Round-the-Casinos course is the largest, and we hear, one of the most exciting layouts ever proposed in Western racing programs.

\$10,000 AUTOMOTIVE ART EXHIBIT TO HIGHLIGHT SECOND ANNUAL MOTORAMA

ONE OF the most spectacular exhibits at the 2nd annual Motorama, which will be held in Hollywood's Pan-Pacific Auditorium, Nov. 7-11, is an art display being presented through the courtesy of the Art Directors Club of Detroit.

This presentation is an automotive advertising art exhibit designed and created for Motorama by the Detroit organization. A. T. Lougee, president of the club, completed arrangements for the Los Angeles showing.

Comprised of the finest examples of automotive art created by staff members of the large agencies which represent the leading manufacturers in the automobile world, the exhibit annually attracts vast throngs to its Detroit presentation.

Such nationally known agencies as J. Walter Thompson, representing the Ford Motor Co.; Campbell-Ewald, representing the Chevrolet Division of General Motors and Ruthrauff & Ryan, representing the Dodge Division of the Chrysler Corporation, will participate in the exhibit.

These original works of art, displayed to demonstrate how automobiles are sold to the American public, have a value of more than \$10,000.

This exhibit will be highlighted by the management of Motorama as one of the principal features of this colorful exposition which is expected to attract 100,000 spectators during the five-day showing.

The nation's finest custom cars, antiques, classic cars and sport cars will be on display together with a vast array of specialty parts and accessories which will be exhibited in a commercial division. European automotive craftsmanship will share the spotlight with American.

Record-holding machines from the racing world, including boats and planes as well as cars, will occupy a special section of the show in which amateur will vie with professional for recognition.

An automobile that flies, a new product on which production is expected to begin when materials are available, is another of the unique exhibits slated for display at Motorama. Numerous individually designed and engineered cars, ranging in cost up to \$25,000, will also be featured.

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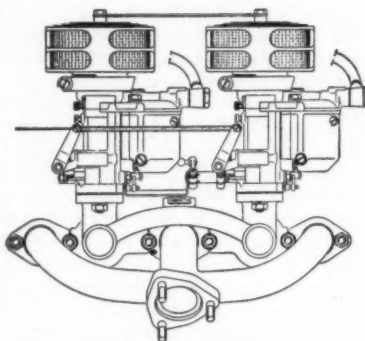


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THE ABARTH UNIT drawn above is one used
on the Roger Barlow Simca which turned in such
a remarkable performance at Pebble Beach. The
unit consists of the Abarth inlet and exhaust
manifolds designed specifically for the Simca
engine, two special Zenith down-draft carbure-
tors and complete linkage. The Barlow mechan-
ics report a 10 per cent increase in hp output
and marked improvement in idling, over the
single down-draft normally fitted to the Simca.
No special tools or adjustments are necessary
for installation. Price of complete Abarth kit
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CROSLY OWNERS will welcome the availabil-
ity of the new BRAJE line. The special heavy,
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solid oil-tight seal; "hushes" tappets to a
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with special breather. The cast-aluminum oil
pan holds an extra quantity of oil—has deep
air-cooling fins. Insuring a cooler engine and
greater oil protection, this finely engineered pan
sells for \$38.50. These are but two of the many
aids to better Crosley performance which are
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★ ★ ★

FOR SOME TIME now M. V. Ryan, 3844
Duane Way, Southgate, Calif., has been solving
braking problems for Crosley owners with his
special hydraulic kit. Using Lockheed Wagner
components, the kit is complete and installa-
tion is easy—the price \$39.95. Mr. Ryan an-
nounces that a kit will shortly be made avail-
able for Anglia, Prefect, Singer, other imports.

★ ★ ★

LATEST (and worthy of a lot of attention) in
the Clymer twenty-five foot book shelf is THE
MODERN CHASSIS by Hank Elfrink. The author
notes in his introduction that it is not an easy
task to treat an involved technical subject in
a non-technical manner, and then proceeds to
do a masterly job of making understandable
to the lay reader the construction intricacies of
the modern automobile. With intelligent use of
line drawings and photographs to illustrate the
text, Engineer Elfrink describes and analyzes
in comprehensive clarity suspension systems,
shock absorbers, steering, brakes and weight
distribution. The book will be interesting to any
mechanical-minded reader, it should be a
"must" reference for a motor enthusiast. The
price is \$2.00 from Floyd Clymer, Publisher,
1268 So. Alvarado, Los Angeles 6, Calif.

★ ★ ★

WE HAVE BEEN informed by Auto Accessories
Co. of Los Angeles that the company has been
granting price refunds to all purchasers of
Roemer Conversion kits whose orders have been
received since the effective price change, June
1, 1951. Because of printing schedule it was
not possible to list the price change in the Auto
Accessories back cover advertisement of last
issue. The company points out that it is in keep-
ing with their established policy to reflect all
possible advantages to their customers.

PREVIOUS MOTOR TRIALS

MG-TC, 1950 Studebaker Champ	Oct. '49
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1950 Oldsmobile 88	July '50
1950 Chrysler New Yorker	Aug. '50
1950 Chevrolet	Sept. '50
1951 Kaiser	Oct. '50
1951 Henry J.	Nov. '50
1951 Nash Statesman	Dec. '50
1951 Ford	Jan. '51
1951 Packard 200	Feb. '51
1951 Hudson Hornet	Mar. '51
1951 Mercury	Apr. '51
1951 Chrysler V8	May '51
1951 Studebaker V8	June '51
1951 Lincoln	July '51
1951 Dodge	Aug. '51

Chrysler Trend Trials No.

This car's TT Number was not pub-
lished at the time of MOTOR TREND's
Chrysler New Yorker Motor Trial due
to retail prices not having been announced
at that time. The figures now being avail-
able, the New Yorker's TT Number works
out to 43.6, perfectly in line with other
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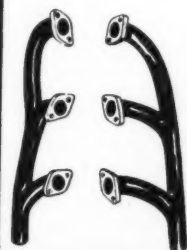
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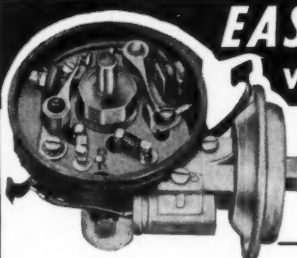
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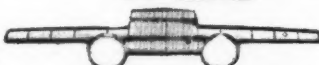
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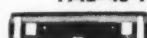
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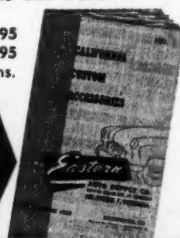
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